An Exploration of the Relationship Between Veganism and Adult Eating Disorders

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Chapter 1: Systematic Review

Is there a relationship between Vegetarianism, Veganism and Eating Disorders in adults? A systematic review.

Prepared in accordance with the author requirements for BMC Psychology

https://bmcpsychology.biomedcentral.com/submission-guidelines/preparing-yourmanuscript/systematic-review

Abstract

Background

Vegetarianism and veganism appear to be more common in eating disorder (ED) populations. These diets are thought to provide acceptable excuses for dietary restriction; however, the nature of the relationship remains unclear. In the UK and worldwide, these diets are becoming increasingly popular and prevalence rates of EDs are rising. Clinicians may be faced with ethical dilemmas as they balance the risk of EDs with patient beliefs and rights. To date, no systematic review has synthesised evidence on the relationship between vegetarianism or veganism and EDs in clinical samples, which is important to improve service provision for this population.

Methods

Six databases were searched with the aim of identifying relevant studies for this systematic review up to May 2024. Findings from 10 studies were synthesised using a narrative approach. Studies which addressed the relationship between vegetarianism, veganism and EDs in adults were included. The Crowe Critical Appraisal Tool was used to assess methodological quality of the reviewed studies.

Results

A narrative synthesis of findings outlined different aspects of the relationship between vegetarianism, veganism and EDs: prevalence rates, the relationship, motivations, and the ED trajectory. Findings suggested that vegetarianism was more common in the ED population, and that this was used to facilitate restriction and provided a socially acceptable excuse to mask EDs. In people with EDs, vegetarianism was also found to impact upon the ED trajectory and may have influenced recovery adversely. For veganism less evidence was found.

Conclusion

There appears to be a relationship between vegetarianism and EDs in adult clinical samples. Due to grouping of veganism under the vegetarian umbrella and small sample sizes, it was not possible to draw firm conclusions regarding the relationship between veganism and EDs in particular. When interpreting findings, methodological limitations, including grouping of diets and unclear definitions should be considered. Clinicians should be mindful of a potential relationship between restricting diets such as vegetarianism or veganism and EDs, as the former may influence illness or impact recovery. Methodological limitations should be addressed in future research.

Keywords

Adult Eating Disorders, Veganism, Vegetarianism, Systematic Review

Introduction

Background and prevalence rates

Eating Disorders (ED) are serious mental health conditions, characterised by a disturbance in eating behaviours and impairment in psychological functioning (BEAT, 2020a). Diagnostic classification systems have outlined six types of EDs: Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder, Avoidant-Restrictive Food Intake Disorder, Pica, and Rumination Disorder (American Psychiatric Association, 2013). "Disordered eating" is when individuals engage in unhealthy dieting behaviours, bingeing, or have a distorted body image but do not meet diagnostic criteria for an ED diagnosis (Heiss et al., 2017). Disordered eating is common, and research suggest 31% of females engage in disordered eating behaviours and 75% have weight and shape concerns (Reba-Harrelson et al., 2009). For EDs, estimated UK prevalence in adults is 7.5% (Silén & Keski-Rahkonen, 2022). Globally, prevalence rates are increasing, and Western cultural ideals, including a strive for thinness and weight focus have been implicated (Striegel-Moore & Bulik, 2007). According to the biopsychosocial model, the aetiology of EDs and disordered eating is multifactorial. Sociocultural ideals such as the thin ideal body may be a risk factor (Culbert et al., 2015); vegetarianism and veganism may be restrictive diet patterns that fit well within diet cultures and be used when striving towards the ideal body.

In the general population, 4.5% and 1.5% identify as vegetarian or vegan (The Vegan Society, 2024; The Vegetarian Society, 2024). In the ED population, vegetarianism appears to be even more prevalent, with prevalence rates ranging from 34%-85% (Zuromski et al., 2015; Bardone-Cone et al., 2012a). Similarly, clinicians estimate up to 11% of ED patients identify as vegan (*N*=1008) (Fuller et al., 2022).

Vegans avoid foods and products which are derived from, have been tested on, or are used for animal exploitation (The Vegan Society, 2019). Vegetarians abstain from meat but may eat other animal-based products such as dairy (The Vegetarian Society, 2021). In the last eight years, the number of people who identify as vegans has increased from 0.25% to 1.5% (The Vegan Society, 2024). In non-clinical populations, researchers suggest that vegetarianism or veganism may provide socially acceptable reasons for diet restricting

(Gilbody et al., 1999), or be a smokescreen for more pathological eating (Lindeman et al., 2000). The relationship between vegetarianism, veganism, and EDs remains unclear, and it is yet to be understood whether they are risk factors or causally related to ED pathology (Heiss et al., 2017).

The relationship between vegetarianism, veganism and disordered eating

In a study with female students, 25% of the vegetarian group (including vegans) reported choosing a vegetarian diet for weight-loss reasons (Gilbody et al., 1999). Hence, motivations for vegetarianism may be related to eating pathology. The vegetarian and vegan samples, however, were small (*n*=45 and *n*=1), and the subtypes were grouped together, making it challenging to comment on motivations across subtypes. In contrast, Dorard & Mathieu (2021) did not find a relationship between vegetarianism, including veganism, and ED symptoms in non-clinical samples. Participants, however, were recruited from social media forums oriented towards animal abolition and their motivations may not have been ED driven. Similar findings were reported by Gwioździk et al. (2022), who also recruited from social media sites, though it was not specified which types. This suggests that motivations may be ED driven and differ across clinical and non-clinical populations. Further research is needed to understand the motivations in people with EDs who also adhere to a vegetarian or vegan diet.

Timko et al. (2012) assessed restrained eating and ED risk in semi-vegetarians, vegetarians, vegans, and omnivores (*N*=486). They found a greater risk of disordered eating in semivegetarians. Of note, 54% of participants were omnivores, compared to 7% vegans, 22% vegetarians, and 15% semi-vegetarians. This limits the validity of findings to subtypes. Vegans were not found to be at risk of disordered eating; however, a lower Body Mass Index (BMI) and fears of weight gain were more common in this group. According to Sala et al. (2023), low body weight is a predictor of relapse in ED populations. Hence, if vegetarianism or veganism contributes to the maintenance of a low weight this may influence recovery. An association between disordered eating symptoms and vegetarianism/veganism has also been found in general population samples (*N*=2449) (Paslakis et al., 2020). However, as vegetarians and vegans were grouped together, and sample sizes were small (*n*=126 and *n*=31, respectively), it is difficult to comment on ED symptoms specifically for either.

Although the findings appear to suggest a relationship, studies were with non-clinical samples, which limits generalisability to clinical populations.

Reviews to date

There are four previous reviews relevant to vegetarianism, veganism and EDs. Firstly, a narrative review by Wallace et al. (2020) which synthesised 15 studies found that no firm conclusions could be drawn about the relationship between veganism and EDs in a clinical context due to the quality and nature of the research. Findings from a review by Mathieu et al. (2023) appeared to suggest a relationship between vegetarianism and EDs, though researchers did not report specifically on the relationship with veganism. Although this review adds to the understanding, its narrative approach was a limitation. This highlights the need for exploring the relationship through a systematic review which minimises bias when interpreting the evidence (Pae, 2015). Sergentanis et al. (2020) conducted a systematic review of the relationship between vegetarianism, veganism, and EDs in people up to 30 years. They found evidence suggestive of a relationship between EDs and vegetarianism, but no causal link could be established. Another limitation was that the authors did not discriminate between clinical and non-clinical samples. Finally, a recent systematic review also explored the relationship between disordered eating/EDs and the meat-avoidance spectrum (McLean, Kulkarni, et al., 2022). The findings were inconclusive regarding a relationship between vegetarianism, veganism and disordered eating. This review synthesised the evidence concerning vegetarianism and veganism in a range of populations, but findings were not specific to clinical ED populations, rather in relation to dietary subtypes.

Rationale for this review

In the ED population, vegetarianism and veganism appear to be over-represented. Moreover, the prevalence rates of EDs and these diets are rising. It is important to better understand the relationship between EDs and these diets to provide effective treatments. There are limitations to the current evidence base- vegetarian and vegan samples are often combined, and data tends to come from studies with non-clinical samples, making it difficult to apply the findings to clinical populations. This review aims to address this gap in the research by focusing on studies exploring the relationship between vegetarianism, veganism and EDs in

clinical samples. The aim is to strengthen the evidence base and inform service provision for ED patients who also identify as vegetarian or vegan.

To address the gaps in the research literature, in this systematic review we aimed to address three research questions:

1. Is there a relationship between veganism, vegetarianism and clinical EDs in adults?
2. What are the implications for clinical practice?
3. How can findings inform future research on the topic?

Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Appendix 1.1) reporting guidance was used for this systematic review (Page et al., 2021). The protocol was registered on PROSPERO in November 2021 (CRD42022275959) and last amended in February 2024.

Originally, studies with non-clinical samples were included in this review. However, following publication of the systematic review by McLean et al. (2022) the research team decided to refine the research question to focus on clinical samples.

Search Strategy

A scoping search was conducted to assess the feasibility of the research questions and aims. A specialist librarian provided support with the development of the final search strategy.

Databases CINAHL, Medline, Embase, and PsychArticles were searched to identify relevant studies. The first and final were in May 2022 and December 2023. A forward and backward citation search and a manual search of reference lists also took place. Identified citations were exported using Zotero 6.0.5, and duplicates were removed manually.

No unpublished and grey literature was identified for the purpose of this review, and this was identified as an exclusion criterion.

Search Terms

PICO (population, intervention/exposure, control, outcome) criteria guided the overall search strategy. Population (adults with EDs), Exposure (vegetarianism or veganism), Control (not applicable), Outcome (reported relationship or motivation). The searches were adapted according to individual databases. Appendix 1.2 provides an overview of the strategies for each database.

Inclusion Criteria

- Studies of adults over 18 years old who follow a vegetarian or vegan diet
- Studies that outline how EDs have been assessed
- Studies that provide information about the relationship between a vegetarian or vegan diet and EDs, including motivations for adherence to this
- Quantitative and qualitative empirical studies
- Prospective cohorts, experimental, cross-sectional, and retrospective studies
- In English and the full text available
- There was no restriction on the year of publication
- Published in peer-reviewed journals

Exclusion Criteria

- Randomised Controlled Trials, and case studies
- Where focus is solely participants with low meat consumption
- Studies on disordered eating and Orthorexia Nervosa as these are not clinical diagnoses
- Studies on restrained eating as restricted meat intake may not be due to EDs • Unpublished dissertations, conference abstracts

Data extraction and Quality Appraisal

The reviewer manually extracted relevant study information; The Crowe Critical Appraisal Tool (CCAT) was used to assess quality of studies (Appendix 1.3), which was selected as it allows for a non-biased consideration of quality. Eight categories are used to assess methodological issues, each awarded a score between zero and five, aggregating to a total score out of 40 (as a percentage), representing the overall quality of the study. An official cut-off score for quality ratings is not available for the CCAT, but the following criteria utilised by other researchers was adopted: 0-50% was considered poor, 51-75% moderate, and 76-100% good. It was not deemed necessary to contact authors for further information. A second reviewer assessed quality of a random sample (20%). The inter-rater agreement was k=0.54.

Narrative Synthesis

Findings of the synthesised studies are summarised qualitatively in a narrative synthesis following the steps outlined by Blundell (2014). Results are structured to illustrate the reported aspects of the relationship between vegetarianism, veganism and EDs. Table 3 summarises key findings, strengths, limitations, and the reported clinical implications and suggestions for future research. In the results and synthesis, the studies are numbered for readability. In the discussion, study authors are used.

Results

Screening and selection of data

The primary reviewer screened titles and abstracts of all identified studies against the inclusion and exclusion criteria. A second reviewer screened a random sample (20%) of titles and abstracts against the criteria. The inter-rater agreement was k=0.66. This was repeated for full articles, with 20% being screened, yielding an inter-rater agreement of k=0.54. Any disagreements were discussed until a consensus was reached. Figure 1 illustrates the search process.

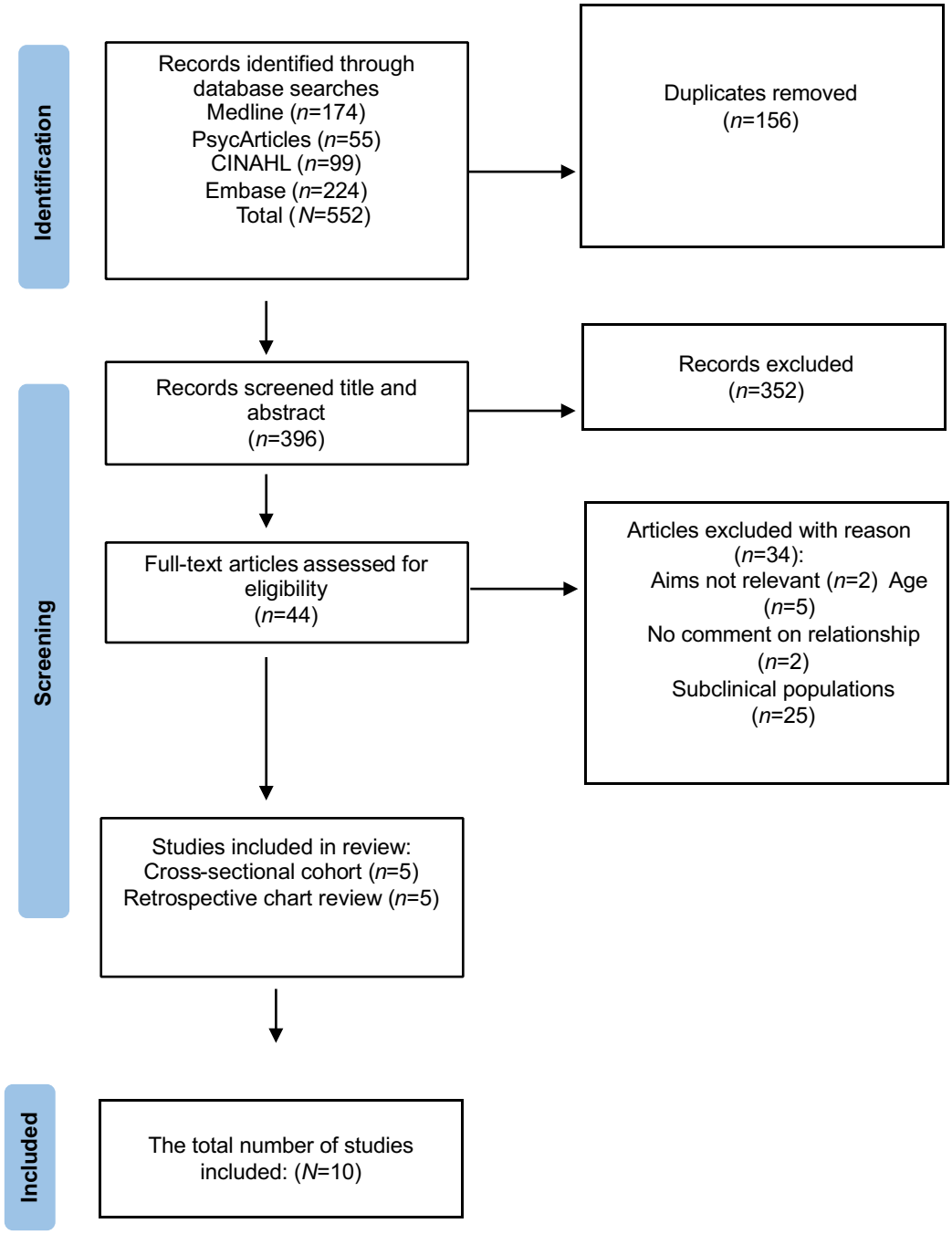

Figure 1: Prisma Flow chart

Study Characteristics

The 10 studies were published in peer-reviewed journals between 1984 and 2021. These were conducted in Sweden (*n*=1), USA (*n*=5), UK (*n*=2), Australia (*n*=1), and Israel (*n*=1). All were quantitative, and cross-sectional design (*n*=5) or retrospective chart reviews (*n*=5). Five

studies compared clinical samples to controls (1, 2, 3, 9, 10). A summary of the reviewed studies and their characteristics are presented in Table 1.

Sample characteristics

Sample sizes ranged between 58-985, and the total sample across all studies was 2218 participants. Four studies reported how many participants were vegetarian, vegan or omnivores (4, 6, 7, 10). Vegetarian sample sizes ranged between 20-57 participants. Two studies reported the vegan sample size (4, 10). For omnivores, sample sizes ranged between 59-92 participants. In five studies, males were included (4, 5, 6, 7, 8). Ethnicity was reported in six studies (1, 4, 6, 8, 10). No study reported on gender identities.

Clinical characteristics

Some studies included different ED types but grouped these together for analysis (1, 3, 4, 10). The remaining six studies were with AN patients. Diagnostic interviews were clearly reported as being used to arrive at a diagnosis in two studies (1, 9). For the remaining studies, it was unclear. The following ED measures were used: CO-Ano (9), EAT-26 (4), EDEQ (1, 10), EDI-2 (3, 9), LIFE-EAT-II (1), and MAEDS (4). Some studies provided little (6, 7) or no details on ED measures (8). No study described the clinical cut-off scores. In two studies, the measures internal consistency was reported (4, 9).

In studies that compared participants based on diet types, vegetarian subtypes and veganism were grouped (4, 6, 7). One study compared all diet groups (4). Four studies included vegans in their sample (4, 6, 8, 10), and two reported the sample size (6, 8). Descriptive statistics on ED subtypes and veganism were provided in one study (10).

Dietary practices were assessed using self-report but were often poorly described (4, 6, 7, 8). One study asked in-depth questions about dietary practices to derive food groups (10); dietary interviews and patient recall, which was confirmed by relatives (5); or combined diet interviews and observations (2). None used food frequency diaries to confirm dietary practices. Definitions for vegetarianism and veganism were often absent, and when present, these were often lenient, particularly in older studies (6, 7).

Table 1: Study Characteristics

Number Author (year) **Country**	**Design**	**Setting(s)** **Population(s)**	**Sample size(s) (N/n)** (EDs/ Vegetarians/ Vegans/ Omnivores) Grouped EDs*/diets**	**Age mean** (Range)	**Gender** F/M %	**Ethnicity** %	**SEC** Mean %	**Diet assessment**	**Vegetarian/ Vegan definition** **Defined to Participants**	**Reported reason for vegetarian diet**	**ED assessment**
1. Bardone-Cone et al. (2012) USA	Cross-sectional	Paediatric, adolescent clinic ED patients, students, general population	*N*=160 ED patients (*n*=93) Controls (*n*=67) ED groups on stages of recovery (*N*=86) Active ED (*n*=52) (AN=9; BN=3; EDNOS=40) Partial recovery (*n*=15) Full recovery *(n*=19) Grouped*	ED 19.46 Controls 23.61	F=100%	Caucasian % ED sample 92.5% Controls 89.6%	Highest years of education ED patients 16.70 Controls 16.52	Self-report Y/N to excluding meats	Excluding beef "not eating beef but eating other meat" "not eating meat at all" NR	Reasons for adopting vegetarian diet (health, ethical, weight, other)	SCID (DSM-IV) EDE-Q LIFE EAT-II
2. Hadigan et al. (2011)	Cross-sectional	Massachusetts General Hospital	*N*=58 AN patients (*n*=30) vegetarians (*n*=14)	AN 23.8	F=100%	NR	NR	Interview Observation	NR NR	No	NR

Table 1: Study Characteristics

Number Author (year) **Country**	**Design**	**Setting(s)** **Population(s)**	**Sample size(s) (N/n)** (EDs/ Vegetarians/ Vegans/ Omnivores) Grouped EDs*/diets**	**Age mean** (Range)	**Gender** F/M %	**Ethnicity** %	**SEC** Mean %	**Diet assessment**	**Vegetarian/ Vegan definition** **Defined to Participants**	**Reported reason for vegetarian diet**	**ED assessment**
USA		AN patients, Controls (age-matched)	Controls *(n*=28) Vegetarians (*n*=4) NR	Controls 24.1							
3. Hansson et al. (2011) Sweden	Cross-sectional	ED units, work and educational settings Patients, general, student population	*N*= 131 ED patients (*n*=70) Controls (*n*=61) Recovered (*n*=36) Current ED (*n=34*) (AN=16; BN=18) Grouped*	ED 26.2 (15-50) Controls 21.4 (15-61)	F=100%	NR	NR	Dietary questionnaire (mixed, vegetarian)	NR NR	No	EDI-2
4. Heiss et al., (2021) USA	Chart review	ED outpatient programme ED patients	*N*=124 Vegetarians (*n*=20) Vegans (*n*=5) Meat-reducers (*n*=27) Omnivores (*n*=72) AN (*n*=73)**	Vegetarians 22.80 Vegans 20.0	F=84.7% M=19	White 90.3% Vegetarian 100% Vegan 80%	NR	Assessment	NR NR	No	EAT-26 MAEDS

Table 1: Study Characteristics

Number Author (year) **Country**	**Design**	**Setting(s)** **Population(s)**	**Sample size(s) (N/n)** (EDs/ Vegetarians/ Vegans/ Omnivores) Grouped EDs*/diets**	**Age mean** (Range)	**Gender** F/M %	**Ethnicity** %	**SEC** Mean %	**Diet assessment**	**Vegetarian/ Vegan definition** **Defined to Participants**	**Reported reason for vegetarian diet**	**ED assessment**
			BN (*n*=18) BED (*n*=11) ARFID (*n*=10) EDNOS (*n*=8) OSFED (*n*=3) Grouped*/**	Meat-reducers 25.22 Omnivores 24.01		Meat-reducers 88.9% Omnivores 90.3%					
5. Huse and Lucas (1984) USA	Chart review	Child and adolescent psychiatry AN patients	*N*=96 Four subgroups (meal frequency, quality and quantity)	16.6 (11-24)	F=96.88% M=3.13%	NR	NR	Assessment of diet history, patient dietary recall (corroborated by relatives)	NR NR	No	NR
6. Kadambari et al. (1986) UK	Chart review	Psychiatry Department, St George Hospital AN patients	*N*=180 Non-vegetarian (*n*=98) Vegetarians (*n*=77) Grouped**	Vegetarians 23.5 Non-vegetarians 22.8	F=88.3% M=11.7%	European, Jewish, Asian, Black	Social class 1-5 Vegetarian 1: 38% 2: 34% 3: 21% 4: 7%	Assessment	"Excluding red meat" Vegetarian= absent, occasional, usual, severe	No	Intensity of weight phobia

Table 1: Study Characteristics

Number Author (year) **Country**	**Design**	**Setting(s)** **Population(s)**	**Sample size(s) (N/n)** (EDs/ Vegetarians/ Vegans/ Omnivores) Grouped EDs*/diets**	**Age mean** (Range)	**Gender** F/M %	**Ethnicity** %	**SEC** Mean %	**Diet assessment**	**Vegetarian/ Vegan definition** **Defined to Participants**	**Reported reason for vegetarian diet**	**ED assessment**
							5: 0% Non-vegetarian 1: 28% 2: 38% 3: 26% 4: 7.4% 5: 0%		NR		
7. O'Connor et al. (1987) Australia	Chart study	ED Unit, Prince Alfred Hospital AN in/outpatients	*N*=116 True vegetarians (*n*=4) Pseudo-vegetarians (*n*=53) Non-vegetarians (*n*=59) Ovo-lacto-vegetarians *n*=NR	Pseudo-vegetarians 21.9 Non-vegetarians 20.0 Onset Pseudo-vegetarians 16.8 Non-vegetarians 17.6	F=96.4% M=3.5%	NR	NR	Assessment	True vegetarian: red meat-avoidance prior to AN Pseudo-vegetarianism: red meat avoidance after AN onset NR	No	Weight loss behaviours

Table 1: Study Characteristics

Number Author (year) **Country**	**Design**	**Setting(s)** **Population(s)**	**Sample size(s) (N/n)** (EDs/ Vegetarians/ Vegans/ Omnivores) Grouped EDs*/diets**	**Age mean** (Range)	**Gender** F/M %	**Ethnicity** %	**SEC** Mean %	**Diet assessment**	**Vegetarian/ Vegan definition** **Defined to Participants**	**Reported reason for vegetarian diet**	**ED assessment**
				True vegetarians NR							
8. Soomro et al. (1995) UK	Chart study	Tertiary Centre AN patients "non-white" "white"	*N*=1037 "non-white" 4.3% (*n*=41) "white" (*n*=944) Vegetarians/vegans (*n*=NR)	Onset "Non-white" 17.3 "White" 18.5 "Non-white" 21.1 "White" 23.6	F=91.8% M=8.2%	"Non-white" (Asian, Afro-Caribbeans, Mixed-Race, "Other", including Chinese) "White" (European, Jewish)	Social class 1-5 "Non-white" 1: 33% 2: 34% 3: 23% 4: 9% 5: 11% "White" 1: 27% 2: 39% 3: 30% 4: 3% 5: 10%	NR	NR NR	No	DSM-III-R criteria for AN and "partial syndrome" AN

Table 1: Study Characteristics

Number Author (year) **Country**	**Design**	**Setting(s)** **Population(s)**	**Sample size(s) (N/n)** (EDs/ Vegetarians/ Vegans/ Omnivores) Grouped EDs*/diets**	**Age mean** (Range)	**Gender** F/M %	**Ethnicity** %	**SEC** Mean %	**Diet assessment**	**Vegetarian/ Vegan definition** **Defined to Participants**	**Reported reason for vegetarian diet**	**ED assessment**
9. Yackobovitch-Gavan et al. (2009) Israel	Cross-sectional	ED department, University AN patients, students	*N*=90 AN patients (*n*=70) Controls (*n*=31) Non-remitted (*n*=23) Remitted (*n*=36)	AN patients Remitted 22.02 Non-remitted 23.33 Controls 22.79	F=100%	NR	Years of schooling Remitted 12.58 Non-remitted 12.83 Controls 14.3	EDFHI – presence of vegetarianism	NR NR	No	EDFHI Y-BOCS-ED EDI-2 Co-Ano
10. Zuromski et al. (2015) USA	Cross-sectional	ED inpatient, University ED patients, students	*N*=278 Non-clinical (*n*=73) Subclinical (*n*=136) Clinical (*n*=69) (AN=33.30%) (BN=29.00%) (EDNOS=37.70%) Grouped*/**	Nonclinical 19.41 Subclinical 19.45 Clinical 26.83	F=100%	Non-Hispanic/Latino (range 97.10–98.60%) white/European origin (range 87.70–94.20% across groups	NR	Questionnaire	Vegetarianism: regularly eating diary and egg produce, excluding meats Veganism: excluding animal products	Reason for adopting and discontinuing diet	EDE-Q (28)

Table 1: Study Characteristics

Number Author (year) **Country**	**Design**	**Setting(s)** **Population(s)**	**Sample size(s) (N/n)** (EDs/ Vegetarians/ Vegans/ Omnivores) Grouped EDs*/diets**	**Age mean** (Range)	**Gender** F/M %	**Ethnicity** %	**SEC** Mean %	**Diet assessment**	**Vegetarian/ Vegan definition** **Defined to Participants**	**Reported reason for vegetarian diet**	**ED assessment**
									NR		

AN – Anorexia Nervosa; ARFID – Avoidant Restrictive Food Intake Disorder; BED – Binge Eating Disorder; BMI – Body Mass Index; CO-Ano - Cognitive Orientation Questionnaire for Anorexia Nervosa; EAT-26 – Eating Attitudes Test; ED – Eating Disorder; EDE-Q8/28 – Eating Disorder Examination Questionnaire 8/28; Eating Disorder Family History Interview – EDFHI; EDI-2 - Eating Disorder Inventory, version 2; EDNOS – Eating Disorder Not Otherwise Specified; Life-Eat-II - Longitudinal Interval Follow-up Evaluation of Eating Disorders; MAEDS – Multifactorial Assessment of Eating Disorders; Structured Clinical Interview – SCID; Specified feeding and eating Disorder – OSFED; YBC-ED - Yale-Brown-Cornell Obsessive Compulsive-Eating Disorders Scale

*/** grouped EDs or diets for analysis

Quality Appraisal

Methodological quality was assessed using the CCAT (see Table 2 for ratings). Scores ranged from 30% to 75%. Five studies were rated as poor (2, 5, 6, 7, 8, 10), three as moderate (1, 3, 4), and one as good (9). Older papers provided significantly less details on all aspects of their study (5, 6, 7).

It was challenging to evaluate bias of diet assessments due to lack of standardised measures and these being poorly described. Studies assessed dietary status using self-report (1, 2, 3, 10); only one reported using dietician assessments, patient recall, and relative's report (5). One developed a questionnaire, but no information was provided on psychometrics properties or validation in ED populations (10). No study reported having defined vegetarianism or veganism to participants. This may have led to misrepresentations of diet status, which in turn, influenced the interpretation. In older studies, vegetarian definitions were arbitrary (6, 7). All studies grouped subtypes of vegetarianism, including veganism for analysis. One compared vegans to other groups and (4) and one provided descriptive information on vegans (10).

For studies which assessed motivation and reason for adhering to vegetarian and vegan diets, no standardised measures were used, and the questions were often unclear (1, 10). This in turn impacted scoring.

EDs assessments were often not described, which made it difficult to assess quality and bias (2, 5, 6, 7, 8). Researchers in Study 1 used the Structured Clinical Interview DSM-IV (SCID-IV), EDE-Q (Eating Disorder Examination Questionnaire) and Longitudinal Interval Follow-up Evaluation of Eating Disorders (LIFE-EAT-2) and reported on their good validity. The EDE-Q has shown excellent reliability and is suitable for the assessment of ED psychopathology in epidemiological research (Kliem et al., 2016). In another study on dietary habits and ED behaviours, the Eating Disorder Inventory (EDI-2) was employed when comparing ED patients and controls (3). No information was provided on the psychometric properties of this, however, the Swedish version has been found to discriminate well between ED patients and controls (Nevonen et al., 2006).

Researchers who used the Eating Attitudes Test (EAT-26) reported on its established validity (4). This has been found to be reliable for determining risk of ED in clinical and non-clinical samples (Dorard & Mathieu, 2021). The Multifactorial Assessment of Eating Disorders (MAEDS) which has been designed to evaluate the treatment outcome of AN and BN was used in this study as well. This has shown satisfactory reliability and validity for its intended purpose (Anderson et al., 1999) but further research is needed to establish its usefulness as a screening measure (Ocker et al., 2007). Cronbach's alpha was 0.89 for the full sample for the EAT-26 and between 0.85-0.90 across the MAEDS subscales. The Eating Disorder Family History Interview (EDFHI), Yale-Brown-Cornell Obsessive Compulsive-Eating Disorders Scale (Y-BOCS-ED), EDI-2, and Cognitive Orientation Questionnaire for Anorexia Nervosa (CO-Ano) were used, and researchers reported on the psychometric properties when used in Israeli samples (9). The EDE-Q (28 items) was employed, with subscales demonstrating adequate internal consistencies (10). Another common limitation was the grouping of EDs for analysis.

Sampling was often poorly described. Limited information was provided on recruitment, inclusion/exclusion criteria, and sample sizes were small with no a priori calculations (3, 5, 6, 7, 10). These methodological problems made replication challenging. Ethical approval sections were often lacking important information or were not described at all, particularly in older studies. Only one study was transparent about missing data and power (4). No studies reported having controlled for confounding variables.

Summary

Although this is not a new area of research, the evidence base remains sparse. Some studies suggest a higher prevalence of vegetarianism in the ED population, and that there may be a relationship. It was not possible to comment on this in relation to veganism, as no studies focused on this. Overall, the quality of the research varied, and this should be considered when interpreting the above findings.

Table 2: Crowe Critical Appraisal Tool Scores

Reference	Preliminaries	Introduction	Design	Sampling	Data Collection	Ethical Matters	Results	Discussion	Total score	Percentage	Descriptive
1. Bardone-Cone et al. (2012)	4	4	3	3	3	3	3	3	26/40	65%	Moderate
2. Hadigan et al. (2000)	2	3	3	3	2	3	3	2	19/40	48%	Poor
3. Hansson et al. (2011)	3	3	3	2	3	2	3	3	22/40	55%	Moderate
4. Heiss et al. (2021)	4	3	3	3	3	3	4	3	26/40	65%	Moderate
5. Huse and Lucas (1984)	2	2	2	2	2	0	1	2	13/40	33%	Poor
6. Kadambari et al. (1986)	2	3	1	1	1	1	2	1	12/40	30%	Poor
7. O'Connor et al. (1987)	2	3	1	1	2	1	2	2	14/40	35%	Poor
8. Soomro et al. (1995)	2	3	3	3	2	1	2	2	18/40	45%	Poor
9. Yackobovitch-Gavan et al. (2009)	3	5	4	3	4	3	4	4	30/40	75%	Good
10. Zuromski et al. (2015)	3	3	3	2	2	3	3	3	22/40	55%	Poor

Narrative synthesis

Ten studies explored the nature of the relationship between vegetarianism, veganism and EDs. Their findings are discussed below and have been summarised in Table 3.

Is there a relationship between veganism, vegetarianism and EDs?

Nine out of the 10 studies reported finding some form of a relationship between vegetarianism, veganism and EDs in patients. However, differences in study aims and methodological quality rendered comparison challenging.

Prevalence rates

Six studies reported on the prevalence of vegetarianism in ED patients. One study found that vegetarianism was more common in females with an ED history compared to controls (52% vs. 12%) (*N*=160). Moreover, 24% of those with an active ED currently identified as vegetarian compared to 6% of the control group (1). Vegetarianism was also found to be common in ED patients (41.9%) (*N*=124) (4). Higher lifetime and current vegetarianism were also identified in ED patients (*N*=116 and *N*=278) (7, 8). For AN specifically, higher rates of vegetarianism were also identified when comparing patients to controls (46.7% vs. 14.3%; 56% vs.8%) (*N*=58 and *N*=131) (2, 3). A vegetarian diet was found to be the strongest predictor of ED status in the AN and recovered group with odds ratios of 41.9, 95% CI [7.03249.9] and 10, 95% CI [2.31-43.5]. This indicated that females in the AN were over forty times as likely to be vegetarians. The recovered group were also more than times likely to be vegetarian (3).

For veganism, the prevalence was found to be higher in clinical samples compared to subclinical and non-clinical samples (8.7% vs. 0.70% vs. 0%) (10). Researchers of another study also reported that 41.9% of those with an ED history endorsed some form of vegetarianism, including veganism (4). Finally, veganism was found to be significantly more prevalent in “non-white" AN patients, though it was not reported how many vegans took part and how this was defined (4).

Relationship between EDs and vegetarianism and veganism

Four studies reported identifying a relationship between EDs and vegetarianism. In one study, 70% of ED patients reported perceiving a relationship between their ED and vegetarianism as this provided a way to facilitate weight loss, restriction, and a sense of control (1). Vegetarianism and red meat avoidance was more evident in AN patients who ate irregular meals of inadequate nutritional quality and quantity (5). Restrictive eating and dieting were also significantly more common in vegetarian AN patients compared to patients who ate a mixed diet (3). Red meat avoidance and fears of fatness were higher in AN patients (6). The same researchers, however, did not find an association between a vegetarian diet and ED behaviours. In contrast, one study did not find a difference in ED risk, symptoms or severities when comparing ED patients who self-identified as vegetarians, vegans, meat reducers, and omnivores. When comparing all groups there were no differences in ED symptoms, with a small effect size (0.02). This was also found when comparing omnivores to all vegetarian groups with a small effect size (0.01) (4). They also found more meat restriction was linked to decreased ED risk and lower BMI. In vegetarians and vegan ED participants, mean BMIs were lower compared to omnivores during treatment (4, 7), and vegetarianism was associated with lowest weight (7).

No studies commented specifically on the relationship between EDs and veganism. The difference in aims, approaches to assess the relationship, variability in findings, grouping with vegetarian diets, and methodological quality makes it challenging to make firm conclusions about the relationship.

Motivations for adhering to vegetarianism

In terms of motivation, it was found that 42% of AN patients reported following a vegetarian diet for weight-related reasons, and this was not cited by the control group (1). Only clinical and subclinical groups reported weight-related reasons for adhering to a vegetarian diet (12.50% and 16.67%) (10). Across all groups, dislike of meat/dairy, health, and ethics were the most reported reasons for vegetarianism.

ED trajectory

Vegetarianism was significantly more common in current ED patients, compared to those who were recovered (1). Vegetarianism continued to be more common in females with a

previous or current history of AN three years after treatment (3). Vegetarianism was a predictor of non-recovery in AN patients, with an odds ratios of 0.095, 95% CI [0.014-0.435] indicating that those who were vegetarian were .95 times less likely to recover from their ED. Vegetarianism was also more common in participants who were not recovered 12 months after treatment (9).

Vegetarians were also found to have a longer history of EDs (7). Just over half started to avoid red meat after the onset of their illness and just over half re-introduced red meat after treatment. Patients with a shorter duration of vegetarianism were more likely to reintroduce red meat. Similar findings were reported in other studies, with researchers reporting that 43.7% discontinued vegetarianism following ED treatment (10).

Table 3 Study Outcomes

Reference	What the study examined	Summary of findings	Limitations	Clinical implications	Suggestions for future research
1. Bardone-Cone et al. (2012)	Compared females with and without EDs on motivations for vegetarianism Compared females on different stages of recovery (age of ED and vegetarian onset, perception on relationship)	In ED sample vegetarianism was significantly more common (52% vs. 12%) (p=<0.001), more currently identified as vegetarian (24% vs. 6%) (p=0.003) and followed this diet for weight-related reasons (42% vs. 0%) (p=0.022) Vegetarianism was more common in active ED patients compared to partial and fully recovered (33% vs. 13% vs. 5%) No difference on history of vegetarianism and weight as the reasons for vegetarianism for recovery groups. (p = NS) OR: NR 68% perceived ED and vegetarianism to be related 60% started a vegetarian diet after ED onset Vegetarianism perceived to facilitate weight-loss and maintenance, and calorie restriction	Cross-sectional design Small sample size EDs not differentiated Group differences (age and interview modality, phone/in-person) Definition of vegetarianism No validated measure for assessing vegetarianism	Explore weight and ethical motivations for vegetarianism to identify patients of concern Vegetarianism may be a maintenance factor as opposed to cause for disordered eating If vegetarianism is used for avoidance clinicians can identify cognitive distortions on forbidden foods Consider how service users can become “healthy” vegetarians Consider and address restriction from vegetarianism at different stages of recovery	Larger samples at different stage of recovery Explore vegetarian subtypes in EDs and recovery

Table 3 Study Outcomes

Reference	What the study examined	Summary of findings	Limitations	Clinical implications	Suggestions for future research
2. Hadigan et al. (2000)	Compared accuracy of reported diet history and observed food intake in nutritional assessment of women with AN and controls	In the AN group more were vegetarians than controls (46.7% vs. 14.3%) ES: NR	NR	Incorporate diet history in nutritional assessment in AN samples	NR
3. Hansson et al. (2011)	Investigated diet habits and ED behaviours in females with ED history and controls three years after treatment Examined association between eating behaviours and psychological symptoms in recovered patients	Vegetarianism more common in AN group than controls (56% vs. 8%) Restrictive eating and dieting more common in vegetarian ED patients than those who ate a mixed diet (70% vs 42%) Vegetarianism more likely in females with an ED history three years after treatment Restriction and dieting more common in recovered vegetarians compared to recovered females who ate a mixed diet (80% vs. 46%) Difference between groups on vegetarianism Recovered group: OR 10.0, 95% CI [2.31-43.5] BN group: OR 1.71, 95% CI [0.16-	Dietary questionnaire not trialled in ED samples and focus on quality not quantity Sample sizes and ED groupings at three years limit generalisability, and may have obscured relationships between ED types Did not assess control group for EDs, which may limit representativeness	CBT approaches target "forbidden" and "fatty" foods Consider vegetarianism in people with an ED history	Assess psychometric properties of dietary questionnaire in ED samples Assess dietary habits by monitoring quantity Larger samples

Table 3 Study Outcomes

Reference	What the study examined	Summary of findings	Limitations	Clinical implications	Suggestions for future research
		18.8] AN Group: OR 41.9, 95% CI [7.03-249.9]			
4. Heiss et al., (2021)	Hypotheses: 1. Vegetarianism is unrelated to ED symptomatology on self-report measures 2. Vegetarianism is associated with lower ED symptomatology Exploratory aim: investigated relationship between BMI and vegetarianism in EDs	Vegetarianism most common in ED patients (41.9%) No difference in ED severity or symptoms between all groups (p = NS) ($\eta_p^2 = 0.01$) No difference between all vegetarians and omnivores (p = NS) ($\eta_p^2 = 0.02$) More meat restriction was related to lower ED risk and lower BMIs (p = NS)	Limited vegan options may have deterred some from treatment All EDs types and all meat-avoiders were compared	Consider how to offer ED treatments for vegetarians and meat-restrictors	Larger samples with different EDs to understand adherences within different diagnosis Explore how to accommodate vegetarians and vegans in ED treatment
5. Huse and Lucas (1984)	Characterise diet patterns in AN patients	Vegetarianism was the most common idiosyncratic food pattern, followed by red meat avoidance ES: NR	NR	Variabilities in diet patterns have implications for service provision	NR
6. Kadambari et al. (1986)	Examined clinical and social backgrounds in AN population to explore	45% were vegetarians Vegetarianism was associated with	Due to design, results should be interpreted with caution	NR	Hypothesis should be tested in prospective studies

Table 3 Study Outcomes

Reference	What the study examined	Summary of findings	Limitations	Clinical implications	Suggestions for future research
	potential association within ED with abstinence	increased avoidance of animal products to prevent weight gain Vegetarians were more "weight-phobic" (Mean 3.6, SD = 0.73 vs. Mean 3.13, SD = 1.0, *p*=.001) Vegetarians were not more ill Veganism was significantly more common in the vegetarian group during illness (Mean 1, SD = 0.0 vs. Mean 1.34, SD = 0.8, *p* = .0001) OR: NR	Symptoms may have emerged from data was gathered as illness developed		
7. O'Connor et al. (1987)	Examined the prevalence and nature of vegetarianism in AN samples Determine which features increase the likelihood of returning to an omnivorous diet	Vegetarianism associated with lowest ever weight 54.3% were vegetarians. Of these, 6.3% avoided red meat prior to ED onset and 50.9% avoided red meat after ED onset No differences between vegetarians and non-vegetarians in age of AN onset or ED behaviours used to achieve weight loss (both NS)	NR	Identify and manage food fads to challenge control Encouragement and guidance are important to gain trust, foster cooperation and help with attitude change	Explore what leads to continued red meat avoidance

Table 3 Study Outcomes

Reference	What the study examined	Summary of findings	Limitations	Clinical implications	Suggestions for future research
		AN history was longer in pseudo-vegetarians than non-vegetarians (M = 4.6 vs. 2.4 years), and was associated with lower BMI during illness (p = 0.05) Red meat avoidance was shorter in pseudovegetarians than true vegetarians (Mean 2.5 years vs. mean 7.8 years) 42.2% of pseudo-vegetarians continued red meat avoidance and 52% of pseudo-vegetarians reverted to omnivorous diet after treatment Length of vegetarianism the most significant predictor for reversion to an omnivorous diet (p = 0.028) OR: NR			
8. Soomro et al. (1995)	Compared “white” and “non-white” AN population on clinical and social characteristics and rate of presentation	Veganism was significantly more prevalent in “non-whites" (p = NR)	Classified ethnicities into broad categories despite cultural differences between ethnic groups	NR	Larger studies with detailed ethnic categorisation and cultural classification

Table 3 Study Outcomes

Reference	What the study examined	Summary of findings	Limitations	Clinical implications	Suggestions for future research
9, Yackobovitch-Gavan et al. (2009)	Assessed vulnerability factors contributing to development and outcome of AN	Vegetarianism significantly differentiated recovered and non-recovered patients p = .029, OR 0.095, 95% CI [0.011-0.789] Vegetarianism was more common in those who continued to be ill 12 months after treatment Past vegetarianism was a predictor of continued illness, and reduced the chance of remission At follow-up, vegetarianism significantly differentiated recovered and non-recovered AN patients. In patients who were vegetarian, the chance of remission reduced significantly, p = 0.04, OR 12.82, 95% CI [0.014-0.435]	Design and retrospective data allows for preliminary conclusions Not recovered group was smaller Sample size Unable to generalize findings to less severe ED populations	NR	Larger and heterogeneous AN populations Employ longitudinal design from onset to recovery
10. Zuromski et al. (2015)	Examined the prevalence and variables related to vegetarianism in females with varying degrees of ED symptoms	Vegetarianism more prevalent in women with severe eating pathology Lifetime vegetarianism prevalence ranged across groups (clinical group 34.80% vs. subclinical group 17.60% vs. nonclinical group 6.80%) Current vegetarianism more common	Low power Results cannot explain nature of the relationship Design only suggests association regarding aetiology and maintenance	Reported motivations may not capture the relationship and this should be explored in treatment Vegetarianism may be indicator for the presence of or development of	Explore if vegetarianism is a risk factor for disordered eating longitudinally

Table 3 Study Outcomes

Reference	What the study examined	Summary of findings	Limitations	Clinical implications	Suggestions for future research
		in the clinical group, followed by subclinical and nonclinical group (11.60% vs 2.20 % vs. 2.70%) Non-vegetarianism was most common (non-clinical group, 97.3% subclinical group 95.6%, clinical group 71%) In the clinical group, vegetarian subtypes and veganism was more common (vegans, 8.7%; lacto-ovo-vegetarians, 18.80%; pesco-vegetarians, 1.40%); in other groups this was less than 2.90% 43.75% of participants in the clinical group discontinued a vegetarian diet due to EDs Weight-loss and gain were only reported motivations by the clinical and subclinical groups (12.50% and 16.67%) Reported motivations The clinical group (meat and dairy dislike 37.50%, health 12.50%, 33.33%)		disordered eating Returning to a vegetarian diet after treatment may be of concern to clinicians	

Table 3 Study Outcomes

Reference	What the study examined	Summary of findings	Limitations	Clinical implications	Suggestions for future research
		The subclinical group (meat and dairy dislike 12.50%, health 33.33%, ethics 25 %) The nonclinical group (meat and dairy dislike 60%, health 20%, and ethics 20%) ES: NR			

CBT - Cognitive Behavioural Therapy; ES - Effect Size; M – Mean; NR – Not Reported; OR – Odds Rati

Discussion

This systematic review aimed to investigate the potential relationship between vegetarianism, veganism, and EDs in clinical samples. The reviewed studies suggest a higher prevalence of vegetarianism in ED samples. Moreover, some studies also reported there to be a relationship between vegetarianism and EDs in terms of ED behaviours, relapse, recovery, and motivations. There is less evidence regarding veganism. Due to the small number of studies, and limitations of the research, findings should be interpreted cautiously.

Prevalence rates

The evidence suggests a higher prevalence of vegetarianism in ED populations during illness and when recovered compared to controls, though methodological differences made comparison difficult. This is congruent with research utilising non-clinical samples, which report vegetarianism and semi-vegetarianism is more common in people with disordered eating and restrained eating (Forestell, 2018; Paslakis et al., 2020; Timko et al., 2012). Hence, vegetarianism may be more common across the broad spectrum of pathological eating. It was not possible to determine the prevalence of veganism and its role in maintenance within ED populations because this was grouped with vegetarianism for analysis. A better understanding of different prevalence rates would improve service provision for both vegetarian and vegan ED patients.

Definitions of vegetarianism varied and were often arbitrary, particularly in older studies. For example, defining vegetarianism as “red meat avoidance”. When considering this in relation to the current definitions of vegetarianism it may have been more accurate to describe participants as “semi-vegetarians”. Thus, studies may not have identified if subtypes of vegetarianism were more prevalent or related to the maintenance of EDs. Definitions are also important in relation to the shift in social thinking around meat avoidance. For example, avoidance of red meat is becoming increasingly more acceptable for health and environmental reasons, which can be used to mask ED pathology (Timko et al., 2012). Dietary self-report measures were not standardised and not validated, which affected

reliability and validity. Timko et al.'s (2012) findings are important here. Despite providing definitions for subtypes of vegetarianism, they found inconsistencies between participants' consumed and reported diets in sample with disordered eating. In the reviewed studies, some participants could have labelled their diet status incorrectly, which may have affected results. From a clinical perspective, it is important to use validated measures to ensure a mutual understanding between service users and clinicians and correctly assess dietary intake, particularly as EDs increase the risk of nutritional deficiencies, which can negatively reinforce diets further (Heiss et al., 2017). Clear definitions and validated dietary assessments are needed to improve research and inform clinical practice.

Small vegan sample sizes and grouping these together with vegetarians limits the generalisability of the findings to ED patients who identify as vegan. Additionally, the small sample sizes appear to suggest that vegans within the ED population may represent a small group. This warrants further research with vegans to inform clinicians on how to support this group, particularly if a different approach is required compared to vegetarians.

Samples with AN presentations were common, and when studies included different EDs, these were grouped. This made it difficult to comment on the prevalence of ED subtypes, and this limits generalisability to other presentations such as BN or BED. Hence, further research with separate ED groups is needed to explore if vegetarianism or veganism is associated with different ED behaviours across clinical presentations.

Vegetarian samples were small and homogeneous, consisting mainly of Caucasian females. Although EDs are more common in females, the global prevalence rates for males are increasing, with lifetime prevalence in males estimated to be 2.2% (0.8-6.5% depending on ED type) (Galmiche et al., 2019). This highlights the need for further research with male samples. Some studies also included patients with a range of ages, which limits generalisability to healthcare settings in the UK, where children and adults are treated differently across CAMHS and Adult Services.

Another important consideration is that the standardised ED measures which were used may not be appropriate for ED patients who identify as vegetarian or vegan. According to McLean

et al. (2022), motivations and restrictive behaviours may be classified erroneously as pathological on ED measures rather than being natural to vegetarian or vegan diets. This could have inflated scores in studies. Clinicians and researchers should draw on newly developed screening tools such as the Vegetarian Vegan Eating Disorder Screener (V-EDS) (McLean et al., 2024). This has been designed to assess EDs in research and clinical settings.

Relationship between EDs vegetarianism and veganism

Three of four studies suggested a relationship between EDs and vegetarianism; ED patients perceived these as related and that vegetarianism was associated with ED behaviours. One study did not find a relationship and found that more meat restriction was associated with lower ED risk and lower BMIs, though the small vegetarian sample may have influenced the results. Of importance, a vegetarian diet may also contribute to maintaining a low weight (Heiss et al., 2021), which can be a risk factor for partial recovery and relapse (Hansson et al., 2011). Longitudinal research is needed to explore the relationship between vegetarianism and persistent low weight in ED samples to understand how this influences the ED trajectory. In aggregate, the heterogeneous aims, variability in findings, and methodological quality mean we are unable to draw conclusions about the relationship. Furthermore, due to design limitations, we only can speak to causation and not causality.

None of the reviewed studies commented on the relationship between EDs and veganism specifically, and therefore we cannot comment on the relationship between these.

Motivation for adhering to vegetarianism and veganism

Motivations are important to understand if dietary choices are ethical or ED driven (Fuller et al., 2022). Weight was a reported reason for adopting and following a vegetarian diet in two studies (Bardone-Cone et al., 2012a; Zuromski et al., 2015). Other reported reasons include the perception of vegetarianism being natural, a dislike of meat/dairy, and for health reasons. No studies reported on reasons underpinning motivations for veganism. Often, vegetarians report more than one reason they have chosen this diet, and it is not uncommon for reasons to change (Rozin et al., 1997). For someone with an ED, any reason may seem reasonable to eliminate foods (Heiss et al., 2017). This is important clinically, as people may report multiple socially acceptable reasons for their vegetarian or vegan diet

and withhold ED driven motivations. Hence, motivations can be clinical indicators of ED driven dietary choices. Continuous assessment of initial and current motivations, and timing of diet onset may elucidate if this is related to EDs (Heiss et al., 2017). For example, if veganism is only evident in food-related situations, this may be a clinical concern. A lack of standardised measures of motivation may have impacted the reliability and validity of findings– this is an area for improvement in future research.

Trajectory of EDs in vegetarians and vegans

Vegetarianism was found to influence the course of illness and impede recovery. Avoiding red meat was related to a longer course of AN (O'Connor et al., 1987). This suggests a role for meat avoidance in the maintenance of EDs, however, the broad definition of vegetarianism, suggests that the participants may have been semi-vegetarians. Another study found that nearly half of those with a history of EDs discontinued a vegetarian diet following treatment. Vegetarianism was more common in females with an AN history three years after treatment. This suggests that continued dietary restriction following ED treatment may be a risk factor for relapse and prevent full recovery. This observation has clinical implications and suggests that clinicians should discuss with patients that continued adherence to meat avoiding diets during and after treatment may increase risk of relapse or prevent full recovery. No studies examined the ED trajectory in vegans, which highlights the importance for research to explore if veganism can also increase the risk of relapse and prevent recovery.

BMI

BMI was lower in vegetarians compared to omnivores at different stages of the ED journey. This is an important finding, as a low BMI after treatment may be a risk factor for ED relapse (Frostad et al., 2022). The Minnesota experiment on Starvation Syndrome may be important here (Keys et al., 1950) the results indicate that prolonged food restriction leads to cognitive and behavioural changes, such as increased focus on food and binge-eating. Hence, clinicians should consider that the restrictive nature of vegetarianism or veganism may contribute to maintaining low BMI, which in turn is a risk factor for continued ED symptoms, relapse or only reaching partial recovery.

Implications for clinical practice and future research

Although the nature of the research and quality of the evidence makes it difficult to form firm conclusions about the nature of the relationship between EDs and vegetarianism, this review indicates a higher prevalence of vegetarianism in the ED population compared to non-clinical populations. Continuous assessment of motivations for dietary choices, and whether these are evident out-with food situations may guide treatment decisions. Clinicians should keep in mind that different aspects of vegetarianism may be a barrier to recovery or a risk factor for relapse.

Due to the grouping of diets, we are unable to comment on the prevalence and relationship with EDs and veganism. This is concerning, as clinicians need to understand how to support this patient group better. Although veganism is a protected right, clinicians must weigh this with the significant risks in EDs. Further research should be completed to clarify the nature of the relationship. Qualitative research with service users and clinicians may elucidate how this population should be treated safely, whilst their beliefs and rights are met.

Further research with large, homogeneous clinical samples should be completed to explore causality between vegetarian subtypes and veganism to clarify the relationship to EDs. To increase reliability and validity, standardised dietary and motivational assessments, and ED measures for vegetarians and vegans should be used, along with correct and clearly defined diets.

Limitations and strengths of the review

To the author's knowledge, this is the first systematic review to synthesise the evidence on the relationship between vegetarianism and veganism with a focus on EDs specifically. This contrasts with previously mentioned reviews, which synthesised the evidence in relation to diet types rather than pathology. In line with findings from other reviews, there was insufficient evidence to draw firm conclusions about the relationship between the explored diets and clinical eating pathology. A strength was that different quality assessment tools were trialled to ensure the most suitable tool was selected. A second rater minimised the risk of bias in quality assessment. One researcher developed the inclusion and exclusion criteria, completed the searches and selected the CCAT alone, which may have led to bias.

These steps, however, were discussed with experienced researchers and clinicians. Unpublished and grey literature was excluded from this review, and none was identified during any stages of searches. If any are undertaken and identified after this review, future research should consider including their findings to minimise bias and increase reliability and validity of findings. An important limitation is that we can only speak to association and not causality due to study designs. The countries where research was conducted, and nature of the samples limits the generalisability to non-western settings. This is problematic as EDs are increasing worldwide, and the prevalence may be higher in non-Caucasian groups and males. Our understanding of EDs as well as veganism and vegetarianism has changed since publication of older studies, and they may not reflect current knowledge on the topic.

Conclusion

This systematic review explored the relationship between vegetarianism, veganism and EDs in adult clinical samples. There was some evidence to suggest a higher prevalence of vegetarianism and a relationship between this and EDs. For veganism, the evidence was insufficient to make firm conclusions. The methodological limitations included heterogeneous aims, variability in assessments, definitions and grouping of diets, and a lack of standardised assessments of diets and motivations. These methodological limitations should be addressed in future research. Clinicians working with the ED population should be mindful of a potential relationship which can maintain or impede recovery when supporting those who identify as vegetarian or vegan.

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Chapter 2: Major Research Project

An Exploration of the Relationship Between Veganism and Adult Eating Disorders: An Interpretative Phenomenological Analysis

Prepared in accordance with the author requirements for BMC Psychology

https://bmcpsychology.biomedcentral.com/submission-guidelines/preparingyour-manuscript/research-article

Plain Language Summary

Title

A qualitative exploration of the relationship between veganism and eating disorders in an adult eating disorder context.

Background

People who identify as vegan do not eat foods or use products which come from animals. Veganism is more common in people with eating disorders (ED) compared to the general population, and clinicians suggest veganism may have a role in maintaining EDs (Fuller et al., 2022). However, there is little research on the relationship, so the nature of the relationship is not clear. For clinicians, it can be challenging to support vegans with EDs because they must provide health-improving and lifesaving treatments, whilst also respecting patients' rights and beliefs. For example, in relation to their own choice of a vegan diet in treatment. It is therefore important to understand the relationship so clinicians can provide better support to patients during treatment and into recovery.

Aims and Questions

This study aimed to explore the relationship between veganism and EDs in adults. There were two questions:

1. How did participants perceive the relationship between their veganism and EDs?
2. Explore participants' motives for identifying as vegans in relation to the development and maintenance of their EDs.

Methods

For this qualitative study, three female vegan ED patients from the Adult Eating Disorder Service (AEDS) in NHS Greater Glasgow & Clyde took part in an interview. Clinicians from AEDS identified patients who might be suitable and gave them information about the study. The interviews were transcribed and analysed using a type of qualitative analysis called Interpretative Phenomenological Analysis (IPA). This analysis looks at how people make sense of their experiences. IPA was used to find themes, which represented the views and experiences of all the participants in this study.

Main Findings and Conclusions

The participants discussed how they saw the relationship between their veganism and EDs and their experience of receiving treatment for their ED whilst being vegan. Their views were captured by two themes “starting their vegan journey on the eating disorder trajectory” and “their journey through the system”.

The findings provided insights into how and why the participants chose to become vegan, and how veganism was related to their ED. Also, there were several insights into how they experienced receiving treatment for their ED as a vegan. The results can be used by clinicians who work with vegan ED patients, and help them to understand the different ways veganism can maintain someone's ED. They can also help them in understanding why it is difficult for patients when they cannot be offered a vegan diet within treatment, and how this might influence their recovery. The results also led to suggestions for future research into the relationship, treatments, and veganism as part of recovery for vegan ED patients.

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Abstract

Background

Self-identified vegans exclude foods and avoid using products which are derived from animals. In the eating disorder (ED) population, veganism appears to be more common, and some suggest this may have a role in the maintenance of EDs. Yet, the nature of this relationship remains unclear. When supporting ED patients who identify as vegans, clinicians are often faced with ethical dilemmas as they balance risk and the life-threatening nature of EDs over individual rights and beliefs. Therefore, this study aims to explore the relationship between veganism and EDs in an adult population.

Methods

For this qualitative study, three female patients took part in a semi-structured interview. Interviews were transcribed and analysed using Interpretative Phenomenological Analysis (IPA). Following the steps of IPA, group experiential themes were developed based on participants' accounts of their experiences.

Results

Two group experiential themes were developed based on the interviews: "starting their vegan journey on the eating disorder trajectory" and "their journey through the system". Nine sub-themes were developed across the two themes: "a gradual conscious decision", "many motivations", "maintenance and control", "two identities", "a smokescreen", "cognitive dissonance", "who is genuine?", "treatments – barrier or the road to recovery?" "The contrast in treatments; feeling powerless and being passive versus collaboration and engagement". These are discussed in the context of existing evidence.

Conclusions

The findings of this study provide insight into the relationship between veganism and adult EDs. Participants discussed their transition into veganism and how this related to their EDs. They also described their experiences of receiving treatment for their ED whilst identifying as vegan, and how this influenced their recovery. Recommendations are offered for clinicians

who support self-identified vegans with an ED. Suggestions for future research are also provided.

Keywords

Adult Eating Disorders, Veganism, Qualitative, IPA

Background

The prevalence of eating disorders and veganism

Eating disorders (EDs) are serious and complex mental illnesses. Up to 1.25 million people in the UK are thought to live with an ED (BEAT, 2020b), and worldwide the prevalence rates are increasing (Galmiche et al., 2019). EDs include Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED), Other Specified Feeding or Eating Disorder, and Avoidance/Restrictive Food Intake Disorder (American Psychiatric Association, 2013).

Specialists forward that veganism may be more common in the ED population (The Royal College of Psychiatrists et al., 2019). Self-identified vegans exclude foods and avoid using products which are derived from animals (The Vegan Society, 2019). Vegetarians abstain from consuming at least one type of animal meat or products of animal slaughter (The Vegetarian Society, 2021). In research, vegetarianism is often used as an umbrella term for different dietary patterns including lacto-ovo-vegetarian, pescatarian, semi-vegetarianism, and also veganism (Dagnelie & Mariotti, 2017).

Between 2006 to 2018 the number of vegans in the UK increased from 150,000 to 600,000 (The Vegan Society, 2018). Moreover, 4.5% of the population identify as some type of vegetarian, including vegan (The Vegetarian Society, 2024), and about 1.5% of the population identify as vegan (Walsh, 2023). The prevalence of vegetarianism in the ED population has been found to be up to 52% (Bardone-Cone et al., 2012b). Clinicians report that up to 11% of ED patients identify as vegan (N=1008) (Fuller et al., 2022). Hence, veganism appears to be more common in the ED population. Regarding this relationship, research from non-clinical populations suggest that meat-avoidance may be a socially acceptable reason to restrict dietary intake and mask eating pathology (Klopp et al., 2003). Although this suggests a role for veganism in the maintenance of EDs, the aetiology is less clear, including whether veganism is a risk factor for EDs (McLean, Moeck, et al., 2022).

Sociocultural models may be important to understand the role of veganism in the development of EDs: societal pressures to have the ideal thin body, pursuing this ideal leads to body dissatisfaction, which in turn will increase the risk of ED related behaviours (i.e.,

weight control through fasting and restriction) (Stice et al., 2017). The restrictive nature and perception of veganism as "healthy" can be seen as a way to achieve this. The aetiology of ED maintenance may be understood through the biopsychosocial model of EDs (Frank, 2016). Among other factors, EDs are thought to be maintained by a fear of weighing too much and not meeting the perceived societal standard for thinness. Hence, veganism could be perceived as a means to meet societal standards for the ideal body.

The Relationship Between Veganism and Eating Disorders

In quantitative studies the relationship has been explored. Bardone-Cone et al. (2012) found that 70% of females with an ED history (*n*= 31) perceived there to be a relationship between their ED and vegetarianism, because this facilitated weight loss and calorie restriction. Conversely, Heiss et al. (2021) found no difference in ED symptoms when comparing vegans, vegetarians, meat-reducers, and omnivores. However, the vegan sample was small (*n*=5/124) and grouped with vegetarians. This reduces the generalisability of this study's findings to vegans with EDs. A qualitative study explored veganism in relation to psychosocial wellbeing and relationships with food (Costa et al., 2019). This study offered a rich understanding of the benefits of veganism on mental health; however, it did not address the potential relationship between veganism and EDs. The study designs, grouping of vegans with vegetarians, and differences in aims and findings highlight the need for qualitative research to investigate the relationship between veganism and EDs in clinical samples.

Qualitative studies which have explored EDs and in health conditions that require dietary restriction, meal planning and food monitoring may be important to understand the relationship between EDs and veganism. For example, Coeliac Disease is managed through strict diet restriction by excluding gluten. Qualitative studies with adults have found that the dietary requirements (food preoccupation and awareness of food content) of adhering to a gluten-free diet, which is necessary for Coeliac Disease management may increase the risk of developing disordered eating (Satherley et al., 2017). In people with Type 1 Diabetes (T1D) dietary control and food restriction are necessary for managing the condition. These, however, are also risk factors that may increase the risk of developing EDs (Goebel-Fabbri, 2009). A qualitative study on EDs in adolescents with T1D found that food control, which is necessary for diabetes management increased ED behaviours (Sien et al., 2020). Hence,

diets which are restrictive and requires awareness of food content, such as veganism may increase someone's risk of developing EDs.

ED relapse and recovery may be impacted by restrictive diets such as veganism. Hansson et al. (2011) found that vegetarian AN patients were less likely to have recovered up to three years after treatment. Researchers also found that restrictive eating and vegetarianism was most common in those with a history of AN. Hence, restrictive diets such as veganism may influence the ED trajectory and recovery. Zuromski et al. (2015) included vegans in their vegetarian sample and found that 45% of patients with an ED history discontinued a vegetarian diet after treatment. Thus, if a vegan diet is a maintaining factor which is not challenged within treatment, this may influence the likelihood of recovery and increase the risk of relapse. ED recovery frameworks may be drawn upon when supporting vegans with EDs through recovery (Kenny & Lewis, 2023) this suggests that recovery is non-linear, continuous, and personalised. Collaboratively, clinicians and patients may consider how veganism can promote recovery.

Motivations may indicate when veganism should be of concern to clinicians. Bardone-Cone et al. (2012) found vegetarianism to be motivated by weight-loss in females with EDs. Zuromski et al. (2015), who also included vegans in their vegetarian sample found health to be a strong motivation for vegetarianism in ED patients. This is important, as health motivations may mask disordered eating in vegetarians (Sieke et al., 2022). Hence, participants may have been reluctant to share ED-related motivations. The vegan sample was small and grouped with vegetarians, which may have masked differences in eating behaviours specific to vegans, thus making it difficult to judge how the findings relate to vegans in the ED population specifically. The quantitative nature of the aforementioned studies also does not provide insight into the nature of motivations in EDs. Veganism may be a concern to clinicians if motivated by weight loss, restriction, exclusion, and health. Furthermore, individuals often report multiple motivations for changing their diet, and any motivation may be considered appropriate for someone to conceal their ED (Heiss et al., 2017). It may, therefore, be challenging to identify ED-driven veganism, and highlights the importance of understanding motivations in ED patients who also identify as vegan, particularly through a qualitative lens. Another concern is that the reported reasons may

distort ED-driven motivations and cause clinicians to overlook when veganism should be challenged as part of treatment.

Overall, clinicians are faced with an ethical dilemma when supporting ED patients who identify as vegans. They need to consider patient preferences, beliefs and the right to selfdetermination, including their dietary choices (such as veganism), whilst simultaneously managing the significant risk of EDs, which may worsen if left without appropriate intervention (The Royal College of Psychiatrists et al., 2019).

A gap in the evidence base

Evidence appears to suggest a relationship between vegetarianism and EDs but there is little consensus regarding its aetiology. Regarding veganism, there are concerns this may be used to mask dietary restriction and be a maintaining factor for EDs. Research examining restrictive eating vegetarians raises concerns for impact on recovery and relapse long-term. There are, however, significant limitations to the evidence base - specifically, small vegan samples, grouping vegans with vegetarians, and quantitative study designs. From a clinical perspective, the proposed relationship and limited understanding of this is problematic and may have implications for treatment planning and recovery. This highlights a need for qualitative research with vegans from the ED population to better understand the nature of this relationship.

Aim and Research Questions

This project aimed to explore the relationship between veganism and EDs within an adult ED context. It also explored whether participants' motives for identifying as vegans play a role in the aetiology and maintenance of their EDs.

1. How did participants perceive the relationship between their veganism and EDs?
2. Explore participants' motives for identifying as vegans in relation to the development and maintenance of their EDs.

Methods

The proposal for this study can be found in Appendix 2.1. The Consolidated Criteria for Reporting Qualitative Research guided the reporting of this study (Tong et al., 2007) (Appendix 2.2).

Design

For this qualitative study, data was gathered by the Principal Researcher, a female Trainee Clinical Psychologist using semi-structured individual interviews regarding participants' views on the relationship between their ED and veganism. Also to explore their motives for identifying as vegans in relation to the onset and maintenance of their EDs.

Theoretical framework

Interpretative Phenomenological Analysis (IPA) was employed to analyse the transcripts. IPA is rooted in phenomenology, hermeneutics and ideography, and is concerned with understanding lived experiences. The idiographic nature of IPA is concerned with an indepth exploration of a participant's unique views and experiences and simultaneously the broader context of all participants (Smith & Nizza, 2022). The ontological stance is focused on how someone makes sense of their personal and social world, and the meaning they ascribe to experiences (Smith et al., 2009). Specifically, how the participants perceived the relationship between veganism, their EDs and their motivations.

The epistemological and ontological positions of this research are also important to consider. Firstly, regarding epistemology: to develop effective ED treatments, it is important to understand all the variables, which may contribute to the development and maintenance of EDs, including veganism. Secondly, in relation to the ontological position of this research, models such as the biopsychosocial model highlights the association between EDs and veganism. The IPA approach is particularly suited to examine how veganism may contribute to the maintenance of EDs, by allowing the interpretation of first-hand experiences of this phenomenon. Through exploring individual lived experiences and the collective experiences of a small homogeneous group, this study aims to provide rich insight into the aetiology of EDs.

Participants and ethics

Participants were patients receiving treatment for an ED in the NHS Greater Glasgow & Clyde (NHS GGC) Adult Eating Disorder Service (AEDS). Of the 80 patients who were open to the service, approximately 30% identified as vegan (n=24). The aim was to recruit up to eight participants, however, as stipulated during ethical approval by NHS ethics, recruitment would close if there was sufficient rich information. Ten participants were identified as meeting the inclusion criteria for this study (Table 1) and were provided with Participant Information Sheets (PIS) (Appendix 2.3). Of these, five participants were successfully recruited for this study. Three participants were interviewed in November 2022 prior to the researcher starting maternity leave, and two in January and February 2024 following their return.

Solihull Research Ethics Committee (REC) and NHS GGC Research and Innovation Department approved this project (IRAS ID: 307969, GN22MH184) (Appendix 2.4). While the researcher was on maternity leave, consent forms were accidentally destroyed by the service for three participants (completely beyond the control of the research team). As this was a data breach, following approval by a Sub-Committee of the ethics committee, AEDS clinicians attempted to re-consent these participants (Appendix 2.5). Unfortunately, only one participant could be re-consented, which left three interviews for inclusion.

Purposive sampling was used to recruit a homogeneous sample, which would capture the significance of the phenomenon under study. Smaller samples can achieve depth and capture the individual idiographic accounts and commonalities across the sample (Smith et al., 2009). The Information Power Model also highlights that if the data is rich, in-depth, and addresses the research aims, fewer participants are needed (Malterud et al., 2016).

Table 1: Inclusion and Exclusion Criteria	
Inclusion Criteria	**Exclusion Criteria**
Adults (18 years or older)	Receiving treatment under the Mental Health Act
Hold an ED diagnosis (AN, BN, BED, OSFED, ARFID) which had been confirmed by a specialist in the AEDS	Be in the initial treatment phases to prevent participation from interfering with treatment response
Previously or currently identified as vegan	Not able to consent and participate in the interview in a meaningful way. For example, cognitive impairment or learning disability may influence the ability to understand the study aims and provide informed consent
Deemed medically fit to take part by clinicians	
Be able to provide informed consent	Suffering with alcohol or drug misuse

Recruitment

Recruitment took place between November 2022 and May 2024. Clinicians identified eligible participants, provided a PIS and sought verbal consent for the researcher to contact them via telephone. Verbal consent was documented in their medical records. During contact, the researcher provided additional information, confirmed suitability with additional screening questions, obtained initial verbal informed consent, confirmed a forwarding address to send consent forms (Appendix 2.6, 2.7, 2.8), and when appropriate, arranged a time for their interview. Participants were offered compensation for their travels if opting to be interviewed in person.

Materials

A semi-structured interview schedule was developed by the research team (Appendix 2.9). Clinicians with experience of research in veganism and EDs and experience of supporting vegan ED patients contributed to the development of the interview schedule to ensure this would address the research question and aims of this study. Participants also completed a demographic questionnaire (Appendix 2.10). For remote interviews, questions were read by the researcher to the participant. They were informed that they were not required to answer any questions.

Research Procedures

Participants could attend an interview in person at AEDS or via Microsoft Teams. The first interview was split into two sessions due to length, the first part was in person, and the

second part was via Microsoft Teams. The remaining opted for an interview via Microsoft Teams. With consent, participants interviews were audio-recorded using a dictaphone. The researcher also obtained permission for transcripts to be generated via Microsoft Teams for remote interviews. Data management was discussed with participants (Appendix 2.3). Consent forms were signed in person for face-to-face interviews, and for remote interviews. Signed consent forms were returned via a prepaid envelope before the interview could take place.

Before commencing the interviews, participants were informed how to contact the researcher and mental health organisations. The researcher also discussed confidentiality and collected demographic information. Participants were informed they could terminate, withdraw, or take a break at any point. The interviews lasted between 42 and 89 minutes. Interviews were transcribed verbatim by the researcher who omitted identifying details and pseudonymised names to protect confidentiality. Transcripts generated via Microsoft Teams were checked against the recording. The participants did not check transcript for accuracy. For audit purposes, the recordings were stored for the duration of this project.

Analysis

Smith & Nizza's (2022) IPA framework guided the analysis. The researcher developed exploratory notes for each transcript by thoroughly examining each line of text. Simultaneously, they captured their thoughts, ideas, and observations (see Appendix 2.11). Notes were used to formulate experiential statements, which summarised central parts of each participant's transcript. The statements were used to identify connections and develop clusters between parts of the transcript. Clusters were compiled into personal experiential themes. This process was repeated for all transcripts, and tables with personal experiential themes were produced for each participant. At each stage, participant quotes were matched to themes. A cross-case analysis was conducted to identify similarities and differences in personal experiential themes across participants, and this informed the development of group experiential themes.

In line with IPA, the researcher considered the presence of a double hermeneutic (Smith et al., 2009). As they examined the participants' understanding of the relationship between

their veganism and EDs, they considered their own meaning-making of the person making sense of their experiences.

Reflexivity statement

Avoidance of bias in qualitative research is difficult, and researchers should outline their position in relation to participants and the research question (Tong et al., 2007). The researcher did not work in AEDS and was not involved in the care of participants. A reflective diary was kept to promote transparency, and during analysis, assumptions and preconceptions were "bracketed off". Anything of relevance was discussed with supervisors to improve the process. Following the data breach, discussions took place to ensure analysis and findings were not impacted by the researcher's experience.

Reflecting on the process, the researcher recognises how their understanding of the complexity of the relationship has developed. Initially, they may have held a bias about importance of respecting patient's rights to self-determination and dietary choices and overlooked the challenges clinicians are faced with when balancing these with safety and risks of treating people with EDs. As they learned more about the potential risks of veganism for recovery and relapse in EDs they became more balanced in their view.

Results

Transcripts from three interviews were included in the final analysis. Relevant participant characteristics are outlined in Table 2.

Table 2: Participant Characteristics

Participant	**Lea**	**Olivia**	**Sophia**
Age	39	35	28
Identified gender	Female	Female	Female
Brought up in a vegan household	No	No	No
Ethnicity	White	White	White
Past ED diagnosis	AN	BN	AN
Present ED diagnosis	AN	BN and AN	AN
Other mental health problems	Depression, anxiety, PTSD, panic attacks, OCD	Depression, anxiety,	Depression, anxiety, panic attacks,

Relationship status	Single	Single	Single
Living status	Live with parents	Live alone	Live with extended family
Highest level of education to date	Left school with no qualifications	Undergraduate degree	Undergraduate degree
Employment status	Permanently sick/disabled (>6 months)	Fulltime employment (>30 hours per week)	Unemployment (>6 months)
Living environment	Urban environment	Urban environment	Urban environment

AN – Anorexia Nervosa; BN – Bulimia Nervosa; ED – Eating Disorder

Two group experiential themes and nine subthemes were developed through analysis (see Table 4). Themes are described below with illustrative quotes (Appendix 2.12: Additional Supporting Quotes for Subthemes).

Starting their vegan journey on the eating disorder trajectory

A gradual conscious transition

Sophia, Olivia, and Lea described going through a gradual transition, which started with vegetarianism moving into veganism. During the process, they increasingly eliminated and restricted more foods. For all, vegetarianism started before the onset of their ED, and veganism came after. This is illustrated in Sophia's comments:

"[…] I was vegetarian, vegan, then into treatment […]" (Sophia)

Lea's reflection illustrates her gradual transition, and how she started to restrict:

"[...] I started to be very focused on calories. [...] I naturally start to... Ehm think as an anorexic about ehm fat and meat and fish. [...]" (Lea)

They all discussed how their journey to veganism was a conscious decision, which they made after the onset of their ED. This is exemplified in Olivia's quote:

" […] when I had an eating disorder, I think. I more consciously maybe decided to try and follow a vegan diet [...]" (Olivia).

Many Motivations

They described the motivations which had underpinned their decisions for becoming vegan. All brought up animal welfare and the environment, and health was also reported by Olivia. Lea's language highlights the determination in her decision to become vegan and may suggest that this was motivated by animal welfare for her.

"[…] It was just a book on animal rights […] and there was just no going back." (Lea)

"[…] *it would be healthier for me to go to be vegan.*" (Olivia)

Interestingly, Sophia and Olivia acknowledged that their decision to become vegan was motivated by their ED. Sophia's quote reflects this:

"*I started following a vegan diet probably because I was actually I was very ill at that point.*" (Sophia)

Olivia did not initially recognise that her motivations for veganism were ED-driven at the time, but illustrated a change in reflective understanding:

"*Although at the time I didn't recognise it was eating disorder that wanted it in my head. It was maybe thinking that's how I want to eat.*" (Olivia)

Maintenance and control

The role of veganism in the maintenance of their EDs was discussed by all, but there were differences in how the maintaining relationship manifested for them. Veganism provided a way for Lea to restrict her dietary intake. When she later started to eat a greater variety of vegan foods, this triggered behaviours which contributed to the maintenance of her ED. Lea's thoughts highlight the role of veganism in the maintenance of her ED:

"[…] a lot less choice and less access."

"[…] I would just cut out and compensate beforehand and then after like starve." (Lea)

For Olivia, veganism provided food rules, and a prescribed way of living, as described in the quote below:

[…] *I'm not going to binge on those foods because they're not vegan" […]* (Olivia)

Their two identities

The theme of identity manifested differently for them, but they all described feeling caught between their ED and the vegan who they aspired to be or had become.

Olivia described the hold of her ED, and how this sometimes prevented her from becoming the vegan she wanted to be. This is illustrated in her quote:

"[…] *I eat anything and it's not in line with how I want to be."* (Olivia)

Lea and Sophia discussed how their ED helped them develop their vegan Identity. In her quote below, Lea described how her ED identity always would be there and without this, she would not have become the vegan she is. Her use of language emphasises the significant and widespread consequences her ED has and had continues to have for her: "[…] *anorexia just become so much in my life but also felt like a scar in your body, it's hard to just put it away. […] it helped me to become the vegan that I am."* (Lea)

Lea described how her vegan identity developed outwith food situations. In contrast, Sophia and Olivia discussed their vegan identities in relation to foods only:

"[…] I started doing a form of activism. This was a whole new world […]" (Lea)

A smokescreen

They discussed how veganism was used to hide their ED socially because this was perceived to be an acceptable excuse to restrict their dietary intake. Lea's quote illustrates how veganism allowed her to hide her ED:

"[…] It [veganism] allowed me to hide behind rather say this is just the anorexia." (Lea)

Sophia's quote demonstrates how her perception of veganism as "healthy" and "cleaner" may have been a way to uncouple the link between veganism and her ED:

"[…] It probably does appease my eating disorder somewhat that it's seen as like you know, the healthy lifestyle… ehm… I don't know, maybe cleaner lifestyle as well […]" (Sophia)

Lea and Olivia also discussed how veganism was becoming more difficult to use as an excuse for themselves to restrict their diet due to the increased availability of vegan foods. For Olivia, this also helped her recognise when she used veganism as an excuse. Olivia's thoughts illustrate this:

"[…] I recognise a bit more if I've tried, if I'm trying to use it as a way to avoid something than if I'm not […]" (Olivia)

Their journey through the system

Cognitive dissonance

All women described a cognitive dissonance in relation to their veganism and EDs when they were "forced" to compromise on their veganism in treatment. Sophia discussed how the dissonance she experienced restricted her further as she was too divided between her values and illness to accept anything in treatment. It is evident from her quote how 'torn' she is between her values and her ED. This is evident in her reflection:

"I couldn't tolerate basically any food because I was sort of like torn between like my ethical beliefs and.. I… my... my eating disorder beliefs […]" (Sophia)

Interestingly, cognitive dissonance was also discussed by Olivia and Sophia in relation to their EDs. Sophia reported that she wants to stay true to her vegan beliefs, even if this means feeling distressed in relation to her ED. Her introspections illustrate how cognitive dissonance was experienced:

"[…] have something that's part of my diet that I'm uncomfortable with, that my eating disorder is uncomfortable with…" (Sophia)

Who is genuine?

In this theme, they described their experiences of encountering other patients who are vegan for ethical or ED reasons. They also discussed how they felt clinician's encounters with other vegan patients had led to biases and influenced the treatment they had received. Lea discussed having met "real" ethical vegans with EDs, and the challenges they experienced when navigating the system, as illustrated by her quote:

"[…] I've met, like, about three other ethical vegans ehm… with eating disorders that they've still struggled, but I've known that they are genuine because they've had, made similar decisions to me […]" (Lea)

Sophia's experience of meeting others who deviated from the norm, for example by being vegan, was perceived to be result of their ED. This is illustrated below:

"[…] anything outside of the norm would be seen as eating disordered." (Sophia)

Olivia discussed how clinicians had made assumptions about her veganism being ED related based on their experiences of supporting other patients:

"[…] *separate out the two without assuming they already know*" (Olivia)

Treatments - a barrier or the road to recovery?

They all discussed their experiences of receiving non-vegan treatments, and how this impacted upon their recovery.

Olivia's experience of having to eat as a vegetarian whilst identifying as a vegan had left her more confused and influenced her decision not to pursue further group treatment. This is shown in her statements:

"[...] *would be vegetarian and not vegan, so that felt difficult [...] But this this time around has been different like I've not done any groups*" (Olivia)

When Lea was the most ill, receiving a non-vegan diet in treatment became a barrier to engage with treatment. Lea's repetition may signify the importance of this her. This is demonstrated below:

"*So basically what happened in that admission was that I refuse. I refused all those things.*" (Lea)

The contrast in treatments; feeling powerless and being passive versus collaboration and engagement

All participants described how receiving a non-vegan diet as part of their ED treatment led them to feel powerless and prevented them from taking an active role in their treatment and recovery.

Lea reflected on feeling powerless and compelled to break her veganism to progress in treatment. This is demonstrated in her thoughts below:

"[…] *I had some really traumatic experiences […] I was making myself eat it […]. And and I was so distraught.*" (Lea)

For Sophia, power was discussed in relation to her lack of input into her own treatment, it appeared that treatment was something she just had to live through and had no say in. Feeling powerless about her own treatment may have prevented her from taking ownership:

"I did not feel like had a voice in my treatment and it felt very much like this is all being done to me." (Sophia)

When clinicians were collaborative, this empowered participants to take an active role and may have made easier to compromise on their veganism. This helped Lea manage her distress when she had to accept a non-vegan diet in treatment and increased her sense of ownership of her treatment. This is illustrated by the following comment:

"There was no better alternative and that she was on my side. And it was also an incentive to get back onto solid food." (Lea)

As demonstrated in Sophia's quote below, having a voice in her own treatment decisions led her to take an active role in her recovery and increased her sense of autonomy. A collaborative approach to care may have left her feeling more empowered:

"[…] *I've had such a big role to play in all of the decisions that have been made, I'm much more protective of it. It's not something that's been done to me it's something that we're working on together* […]" (Sophia)

Discussion

Main findings

This study explored three women's views on the relationship between their veganism and EDs. Through an IPA, two group themes and nine subthemes were developed. Firstly, their journey into veganism was gradual, and had been a conscious decision following the onset of their ED. Veganism was motivated by many reasons, including EDs. Veganism was identified in relation to in the maintenance of their EDs. They all discussed identity in relation to their EDs and veganism. Being vegan gave an excuse to restrict and hide their ED, externally and internally. A further theme emerged, relating to their journey through the ED treatment system. They described experiencing cognitive dissonance in response to eating a non-vegan diet or "unhealthy" vegan foods. They also discussed their encounters with other vegans, and the impact of having to eat a non-vegan diet in treatment. Treatment experiences left them feeling powerless on the whole, whereas collaborative treatments increased their engagement.

A gradual conscious transition

The participants increasingly restricted their diet and excluded more foods as they transitioned gradually to veganism. Self-imposed dietary restrictions are common in EDs, and as the illness progress, more are adopted. For example, an omnivore who ate a range foods, converts to pescetarianism, vegetarianism, and eventually veganism (Fuller & Hill, 2022). Hence, gradual and restrictive diet transitions can be indicators of ED development or the illness worsening, and this appears to be the journey which was reflected for participants in this study. Clinicians should be mindful that dietary changes may be slow, not always apparent and therefore difficult to identify.

The women became fully vegan after the onset of their EDs. The biopsychosocial model of EDs is important here: we should consider whether the cultural move towards veganism is a way to meet societal standards for the ideal body. Clinicians should therefore take a wider perspective when considering influences of veganism in relation to development of EDs. The transdiagnostic model of EDs (Fairburn et al., 2003) is also important for these findings. This suggests that EDs are maintained through the individual's over-evaluation of their dietary habits, shape, weight, and ability to control these. For the participants, veganism may have provided a way to control all of these. Hence, EDs are not a direct consequence of veganism, but may be a contributing factor in development, and play a maintaining role within the context of EDs.

Adopting a vegan diet was described as a conscious choice. This finding is noteworthy considering the timing of their veganism onset. Veganism may have been ED-driven to facilitate restriction, but participants did not have insight into this at the time. Lack of insight is common in AN and BN, and it is the egosyntonic nature of EDs that has been implicated in this. The phrase egosyntonic refers to behaviours, feelings and values which are consistent with one's ideal view of oneself, preventing us from seeing behaviours as problematic (Vitousek et al., 1998). Hence, veganism may have provided a way to restrict and control in line with their EDs, and therefore not perceived as an issue. Together, these findings indicate a complex and multifaceted role for veganism in the maintenance of EDs. Lack of insight may lead to intentional or unintentional denial of their ED as a strategy to preserve what is

perceived as "beneficial" within their illness (Konstantakopoulos et al., 2011). Hence, veganism is not the driver but may be a contributing factor to ED maintenance. For example, restricting as part of veganism may also be related to restricting within EDs. Clinicians should explore patients' awareness of their restriction within veganism as being related to or maintaining their ED. Moreover, whether they recognise that they are restricting their eating but do not see that the choice to become vegan after their ED suggest this is an extension of their illness.

Many Motivations

The participants described the motivations which had underpinned their decisions to become vegan. At times, some also reflected on a change in perspectives as they recognised and acknowledged that their veganism was initially ED-driven. This is in keeping with the notion of Heiss et al. (2017), who report that people with EDs report complex rationales explaining the adoption of a vegetarian diet, and to them, any reason to exclude and restrict may seem reasonable. It is also important to consider that motivations for meat-avoidance can also change (Rozin et al., 1997), and this may also apply to veganism. Hence, reported motivations may mask ED-driven veganism, to themselves and others, and these might change. Our participants may be in a state of cognitive dissonance, and despite recognising the relationship, these moments are just brief, as their ED quickly distort this insight in a protective response to maintain itself. This finding fits with the Cognitive Behavioural (CBT) model of EDs (Fairburn et al., 2003), which suggests that EDs are preserved through selfmaintaining cycles. This has implications for service provision. Firstly, assessing the rationale for veganism may be complex but important for determining if it is concerning. Secondly, existing transdiagnostic CBT approaches such as the one proposed by Fairburn et al. (2003) may be used to challenge veganism if this is part of the self-maintaining cycles.

An important finding was that only one participant described themselves as an ethical vegan and lived a lifestyle concordant with the tenets of veganism (avoidance of animal-based products such as wool, leather, cosmetics). It was less clear whether veganism went beyond diet for other participants. Behaviours which align with a vegan lifestyle may be less indicative of ED pathology and therefore of less concern clinically than veganism which is only evident around dietary requirements (Fuller et al., 2022).

Maintenance and Control

Participants described different ways in which veganism contributed to the maintenance of their EDs. For some, veganism led to emotional control or perceived loss of control, and for others, veganism also led to loss of control through increased availability of vegan options. A dominant ED feature is extreme control of eating and other ED behaviours (Fairburn et al., 1999). Moreover, perceived loss of control can trigger ED cognitions and distress (Waller & Hodgson, 1996). Therefore, as was found in our participants, veganism has an important role in affecting thoughts and feelings, which in turn leads to ED behaviours, all of which maintains EDs. Clinically, veganism that contributes to someone's ED may therefore be formulated and challenged through CBT models.

For one participant veganism provided food rules which she felt would help control her bingeing episodes by only being a "healthy vegan". In EDs, including BN, food rules are common, and this may result in healthy eating becoming extreme (Eiber et al., 2005; Klein & Walsh, 2004). In a vegan diet, label checking to exclude animal-based products is often necessary. These are also behaviours seen in EDs, regardless of dietary choice (Fuller & Hill, 2022). Hence, the efforts needed to meet the requirements of a vegan diet may fit well within the behaviours seen within the maintenance of EDs. In relation to this study, the food rules veganism offers may have been appealing to our participants' ED, and thereby contributing to ED maintenance. Challenging vegan food rules in treatment may be important to prevent partial recovery and increased risk of relapse.

Two identities

Participants also described the ongoing hold of their ED identity, and how this had allowed them to develop a new vegan identity. Qualitative research has found that letting go of ones ED, is like losing one's identity (Weaver et al., 2005). Contextualised to this study, veganism may have provided a structured way of living, with aspects, such as restriction that are known to their ED identity and this may have been appealing. During ED recovery, it is important to let go of the illness (Croce et al., 2024). Hence, developing a new vegan identity as part of recovery may have made this easier. Veganism also facilitated an increased awareness and understanding of the participant's illness and wellbeing. Clinicians should draw on recovery frameworks when supporting ED patients who self-identify as vegans and

support them in de-identifying with their vegan ED identity and re-discover their new vegan-identity (Kenny & Lewis, 2023). This would be through formulating a shared understanding of their vegan identity in relation to their ED and the vegan they wish to become, including the activities they would engage in that aligns with this.
For two participants, their new vegan identity was only discussed in relation to food-related situations. Clinically, it may be concerning if veganism is not evident in other behaviours or if individuals only strive towards a certain type of veganism ("healthy vegan"). Further qualitative research may provide an in-depth understanding of this.

All our participants discussed the 'vegan they had become' or 'were striving to be' through recovery. Perfectionism has been implicated in the development and maintenance of EDs, and may explain this finding (Shafran & Mansell, 2001). In people with EDs, perfectionist standards are employed to control their eating, shape, and weight, and standards in other areas of life (e.g. their striving towards reaching a vegan lifestyle). Performance is monitored through weight checking and calorie counting, and self-criticism is common when they perceive their attempts as inadequate. This will trigger more self-criticism, and lead individuals to strive even more towards reaching their high standards (Fairburn et al., 2003). For participants, veganism may have been a strategy to control eating, with the overall aim of achieving a diet, weight and shape in line with the impossible standards dictated by their ED, maintaining a perpetual state of striving for unattainable standards. Perfectionism in veganism and EDs may be challenged through treatment using Compassion Focused Therapy, as patients are supported to recognise the role of their high standards in maintaining their ED, and in developing self-compassion in relation to these (Goss & Allan, 2012).

A smokescreen

Veganism was used to cover or legitimise their EDs. For some participants in this study, veganism was perceived as a socially acceptable excuse to restrict their food intake, while for others this provided a lifestyle that was healthy, and appeased their ED. This aligns with findings from Klopp et al. (2003) who found vegetarianism a socially acceptable and convenient way to eliminate foods. Another interesting finding was that veganism provided a smokescreen for participants themselves, in relation to the self-perception of their ED. In

EDs, denial is common, and may be an unconscious process due to lack of insight (Howard et al., 2021). Thus, veganism may be an acceptable excuse to restrict, as demonstrated for the participants in this study, which in turn contributed to maintain their EDs. This is important clinically. With veganism becoming more mainstream, it becomes a more acceptable and accessible excuse to mask EDs. Therefore, clinicians should explore if veganism is evident only in food-related situations, or if this is mirrored in other lifestyle choices. They should also consider whether the individual is willing to eat a variety of vegan foods, including those perceived to be “unhealthy” vegan options.

Finally, two participants highlighted that the growing market for vegan products has made this a more difficult excuse to use. If one's veganism is ED-driven, they are more likely to decline what is considered an “unhealthy” vegan alternative. The expansion of veganism provides opportunities for clinicians to challenge individuals when they are concerned that veganism may be being used to restrict food intake socially and mask symptoms.

Cognitive dissonance

The participants discussed the cognitive dissonance and distress they experienced when having to compromise on their vegan beliefs by eating non-vegan foods, or when eating vegan foods that were not pleasing to their ED. According to Cognitive Dissonance theory, individuals experience discomfort when their values and behaviours do not align (Festinger, 1957). The discomfort of dissonance will drive behaviour change until these are in accordance with their beliefs; change their beliefs; and if they unable to reduce discomfort, this can lead to feeling powerless. In this study, cognitive dissonance appears to have led to powerlessness, which in turn influenced how participants’ engaged with treatment and influenced their recovery. Through guided discovery, clinicians can support patients in recognising conflicting beliefs, which in turn may be helpful in leading to positive behaviour change.

Who is genuine?

This theme related to participant’s experience of meeting other vegans through the healthcare system. One participant differentiated between those whose veganism is ED-driven and those who are “real ethical vegans”. They expressed concerns about bias from

clinicians, because of other people's flexible approach to veganism in food-related situations only, or that anything outside of the "norm" is perceived as ED-related. Researchers have found that clinicians may hold concerns about the potential relationship in some ED patients, however, they do not hold negative views on veganism. This highlights a division between patients and clinicians. Patients worry that clinicians assume a relationship and therefore do not respect their veganism. For clinicians, however, veganism is not perceived as problematic, but may warrant clinical attention. Clinician's perspective should be relayed to patients, as they may feel vulnerable when behaviours that may or may not be related to their EDs are challenged (Fuller & Hill, 2022). This was also reported by Olivia in this study, that it was "difficult", when clinicians challenged her veganism.

Treatments - a barrier or the road to recovery?

Compromising on veganism against their will was distressing for participants and made it challenging to engage with treatment. For clinicians, veganism can lead to ethical dilemmas. Although clinicians should endeavor to respect beliefs, and challenge veganism in a compassionate and therapeutic way, this may not possible due in some instances due to risk and the significant consequences if patients are not offered life-saving treatments. For example, nasogastric tube-feeding is non-vegan and may be unavoidable in lifesaving or health-improving situations (Fuller et al., 2022). Psychological formulations may be the bridge between patient's and clinicians through a shared understanding of EDs, and also the importance of someone's veganism.

The contrast in treatments; feeling powerless and being passive versus collaboration and engagement

Power was described when participants reflected on times where they did not feel like they had a choice regarding veganism in treatment. Results of a qualitative study with AN patients reflect a similar finding, (Zugai et al., 2024), as participants discussed how clinicians abuse of power prevented them from seeking treatment and increased mistrust in healthcare professionals. This suggests that a barrier is created when patients perceive their vegan beliefs as being disrespected, and that this may influence engagement and impact recovery. Hence, for the women in our study, lack of choice in relation to a vegan diet became a barrier to engagement and recovery. This highlights the challenges for clinicians

when supporting this population. Specifically, because in partial recovery, relapse is common. Therefore, if veganism is a maintaining part of EDs, and left untreated, this may increase risk of relapse. Another important consideration is that clinicians may be faced with ethical dilemmas, when managing situations where they are unable to provide treatments according to patients' beliefs. However, such treatments may be lifesaving or significantly improve health, and may invoke a duty of care which may surpass individual beliefs. Nevertheless, this may lead to a feeling of power-imbalance for patients, and mistrust towards clinicians, and negatively influence therapeutic relationships with healthcare professionals (Fuller et al., 2023).

The participants also described how experiences of working collaboratively with clinicians, led them to take an active role in recovery and ownership of the process. In EDs, relationships with clinicians are key to engagement and recovery (Sheridan & McArdle, 2016). Considered in relation to the experiences of the women in this study, a compassionate and collaborative approach helped them make informed choices and take an active role in their recovery. These findings highlight the importance of delivering personcentred care and developing good therapeutic relationships.

Limitations and strengths

Although five participants were recruited, only three interviews could be included in the final study. Although this presented significant challenges to the proposed study design, the experience furthered the researcher's understanding of good research practice, including realistic data management and storage within NHS settings. This provided insight into the challenges overstretched and underfunded services are faced with, when taking part in research. From this, the researcher appreciates the difficulty of considering patient needs compared to those of the researcher, and that patient safety always is paramount in such situations. Another limitation was that people with lived experiences were not involved in the development of the interview schedule, which may have brought important perspectives to the process (e.g. phrasing of questions, exploring veganism outwith dietary practices). This, however, was not considered appropriate due to this being a niche and difficult to recruit population. Moreover, also due to concerns about the potential additional impact of taking part in research whilst undergoing treatment for a severe mental health problem. A

limitation was that the researcher did not probe interviewees on whether veganism was followed outwith dietary practices, and this may have been important to understand the relationship. A strength of this study was that the themes were checked against the transcript by another member of the research team who agreed with the findings.

The findings offer insight into the experiences of a small, homogenous population, in keeping with IPA principles. Caution is warranted before generalising findings to the wider population. This, however, is also a strength, as IPA recommends utilising homogenous populations, to capture the perspectives of a specific groups' experiences of a phenomenon. Caution should be taken in relation to the participants' discussion of their experiences-starvation can lead to cognitive and emotional changes, which may have altered their recollections. Features of EDs, including duration of illness, severity, and stage of recovery may also have influenced participants perception. This should be considered when interpreting the participants' description of experiences from when they were most ill. The remote format of interviews may have influenced how open participants felt they could be and what was shared.

Implications for Future Research

Studies which include patients with a range of EDs and different demographics (e.g. males, ethnicities) may provide insight into whether the findings can be generalised to other vegans, who receive treatment for their ED. Further research examining motivations may be useful to explore if these are different for those who identify as "ethical vegans", and whether reported motivations are mirrored in lifestyle. Future research should consider exploring whether veganism is practiced out with dietary practices to understand the relationship. Screening tools such as the V-EDS (McLean et al., 2024) may be useful to assess the relationship in quantitative studies.

It appeared particularly challenging for participants to recognise how veganism may have contributed to the maintenance of their EDs when they were very unwell. Research may explore whether veganism changes, if parts which align with EDs (food rules and restriction) are challenged as part of treatment. Research with recovered vegan ED patients may enhance our understanding of whether insight changes when people are recovered.

Research on ED and vegan identities formulated as part of recovery models may elucidate whether veganism can be used to promote ED recovery. Further qualitative research may explore patient's and clinicians' perspectives on treatment which involve non-vegan diets. Recovered ED patients who identify as vegan may bring important perspectives to different stages of the research process, for example how to approach the data collection and the right questions to ask in qualitative studies.

Implications for clinical practice

Motivations appear to be important to understand the relationship, and when veganism may be ED-driven. These should be assessed continuously through treatment. It may also be important to explore if veganism is used to restrict with self and others, for example through offering vegan alternatives or explore if a patient's lifestyle is according to vegan principles. Considering the overlap between veganism and dietary controlled conditions, findings of this study may also be used by clinicians to support ED patients with health conditions such as Coeliac Disease, T1D, and food allergies.

Working collaboratively with patients regarding treatment decisions may motivate engagement with recovery. When it is not possible to offer vegan alternatives, this should be discussed with patients in a way that is compassionate and person-centred to ensure individuals feel involved in their care.

Conclusion

This study explored veganism and EDs in an adult clinical sample, with the aim of understanding the nature of the relationship between the two, which have not been done through a qualitative approach. The findings provided insight into a complex relationship, where the restrictive nature and requirements of veganism aligns well with the nature of EDs; and that participants found it challenging to identify when their motivations for adhering to a vegan diet may have been ED-driven. Additionally, veganism provided an easily accessible excuse for food restriction, thereby maintaining their ED. Findings also provided insight into difficulties the patients experience through treatment, and how veganism may impede recovery. Moreover, challenges for clinicians through some of the ethical dilemmas

they are faced with when providing lifesaving treatments is also highlighted. Future research on how veganism can be challenged through existing treatment and considered within recovery models is needed.

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Appendices

Appendix 1.1: PRISMA Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	10
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	11
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	15
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	16
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	17
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	16
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	94
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	17-18
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	17-18
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	22-27
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	35-40
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	17-18
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	35-40
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	35-40
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	18

	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	18
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	18
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	18

Section and Topic	Item #	Checklist item	Location where item is reported
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	18
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	18
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	18
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	19
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	19
Study characteristics	17	Cite each included study and present its characteristics.	20-21
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	29-31
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	35-40
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	32-35
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	35-40
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	35-40
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	32-34
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	32-34
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	32-34
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	41-45
	23b	Discuss any limitations of the evidence included in the review.	45
	23c	Discuss any limitations of the review processes used.	45
	23d	Discuss implications of the results for practice, policy, and future research.	44-45
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	16

	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	16
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	16
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	NA
Competing interests	26	Declare any competing interests of review authors.	NA
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the	NA
Section and Topic	**Item #**	**Checklist item**	**Location where item is reported**
		review.	

Appendix 1.2: Search Strategy

Search Strategy for databases: CINAHL, Medline, Psycharticles, Embase

Interface: EBSCOhost Database: CINAHL Date: 09/05/2022 Total Retrieved Records: 99		
#	**Terms**	**Results**
S1	(MH "Vegetarianism")	7,438
S2	(MH "Plant-Based Diet")	501
S3	TX "vegan diet"	333
S4	TX vegans	2,150
S5	TX veganism	102
S6	TX "semi-vegetarian"	42
S7	TX "lacto-ovo-vegetarian"	70
S8	TX "lacto-vegetarian"	28
S9	TX lactovegetarian	25
S10	TX flexitarian	50
S11	TX omnivore	266
S12	TX pescatarian	27
S13	TX "ovo-vegetarian"	71
S14	TX fruitarian	0
S15	TX vegetarianism	7,496
S16	TX "plant based diet"	1,003
S17	(MH "Eating Disorders")	10,765
S18	(MH "Anorexia Nervosa")	5,081
S19	(MH "Anorexia")	1,941
S20	(MH "Bulimia Nervosa")	1,804
S21	(MH "Bulimia")	2,964
S22	TX "eating disorder not otherwise specified"	237
S23	TX eating disorder	20,911
S24	TX anorexia	10,724
S25	TX anorexia nervosa	6,478
S26	TX bulimia	5,744
S27	TX bulimia nervosa	3,430
S28	TX "disordered eating"	2,621
S29	TX "restrained eating"	318
S30	TX "restrictive eating"	213
S31	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16	8,757
S32	S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30	28,653
S33	S31 AND S32	99

Interface: EBSCOhost Database: Medline		
Date: 11/05/2022 Total Retrieved Records: 174		
S1	(MH "Diet, Vegan")	336
S2	(MH "Vegans")	190
S3	(MH "Diet, Vegetarian")	3,545
S4	(MH "Vegetarians")	309
S5	TX "vegan diet"	565
S6	TX vegans	4,005
S7	TX "vegetarian diet"	1,432
S8	TX vegetarians	6,404
S9	TX vegan	4,005
S10	TX vegans	4,005
S11	TX "veganism"	149
S12	TX Vegetarian	6,404
S13	TX vegetarianism	600
S14	TX "plant based diet"	826
S15	TX "semi vegetarian"	68
S16	TX "lacto ovo vegetarian"	160
S17	TX "lacto ovo vegetarian"	160
S18	TX "lacto vegetarian"	103
S19	TX "lactovegetarian"	81
S20	TX flexitarian	80
S21	TX omnivore	1,834
S22	TX pescatarian	39
S23	TX "ovo vegetarian"	162
S24	TX "frutarian"	2
S25	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24	10,871
S26	(MH "Anorexia Nervosa")	13,945
S27	(MH "Anorexia")	5,237
S28	(MH "Bulimia Nervosa")	2,651
S29	(MH "Bulimia")	5,707
S30	(MH "Feeding and Eating Disorders")	17,421
S31	TX "Anorexia Nervosa"	19,240
S32	TX Anorexia	39,033
S33	TX "Bulimia Nervosa"	7,535
S34	TX Bulimia	12,334
S35	TX "Feeding and Eating Disorders"	18,190
S36	TX "eating disorders"	32,320
S37	TX "eating disorder not otherwise specified"	479
S38	TX "disordered eating"	4,586

S39	TX "restrained eating"	702
S40	TX "restrictive eating"	493
S41	S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40	65,758
S42	S25 AND S41	174

Interface: EBSCOhost Database: PsychArticles Date: 11/05/2022 Total Retrieved Records: 55		
S1	DE "Vegan Diet"	1
S2	DE "Vegetarian Diet"	5
S3	TX "vegan diet"	10
S4	TX "Vegetarian Diet"	32
S5	TX vegan	62
S6	TX vegans	62
S7	TX vegetarian	232
S8	TX Vegetarians	232
S9	TX veganism	13
S10	TX vegetarianism	54
S11	TX "plant based diet"	6
S12	TX frutarian	0
S13	TX "semi vegetarian"	1
S14	TX "lacto ovo vegetarian"	0
S15	TX "lacto vegetarian"	0
S16	TX lactovegetarian	0
S17	TX flexitarian	0
S18	TX omnivore	77
S19	TX pescatarian	3
S20	TX "ovo vegetarian"	0
S21	TX "ovo vegetarian"	0
S22	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21	489
S23	DE "Eating Disorders"	548
S24	DE "Anorexia Nervosa"	206
S25	DE "Bulimia"	289
S26	TX "eating disorders"	5,108
S27	TX "anorexia nervosa"	1,745
S28	TX bulimia	2,252
S29	TX anorexia	2,407
S30	TX "eating disorder not otherwise specified"	145
S31	TX "bulimia nervosa"	1,521
S32	TX "disordered eating"	1,297
S33	TX "restrained eating"	379

S34	TX "restrictive eating"	115
S35	S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34	6,841
S36	S22 AND S35	55

Interface: EBSCOhost Database: Embase (1947-Present, updated daily) Date: 10/05/2022 Total Retrieved Records: 224		
S1	Vegan/	687
S2	vegan diet/	869
S3	vegetarian diet/	4779
S4	vegetarian/	2687
S5	veganism.mp.	172
S6	vegetarianism.mp.	734
S7	vegan.mp.	2310
S8	"vegan diet".mp.	1198
S9	"vegetarian diet".mp.	5339
S10	vegetarian.mp.	8467
S11	"plant based diet".mp.	950
S12	"semi vegetarian".mp.	82
S13	"lacto ovo vegetarian".mp.	206
S14	"lacto vegetarian".mp.	128
S15	lactovegetarian/	59
S16	lactovegetarian diet/	21
S17	lactovegetarian.mp.	171
S18	flexitarian.mp.	50
S19	omnivore/	981
S20	omnivore.mp.	1364
S21	pescatarian.mp.	35
S22	"ovo vegetarian".mp.	210
S23	frutarian.mp.	1
S24	eating disorder/	27987
S25	anorexia/	70152
S26	anorexia nervosa/	23082
S27	bulimia/	15107
S28	"eating disorder".mp.	37817
S29	anorexia.mp.	102554
S30	"anorexia nervosa".mp.	25150
S31	bulimia.mp.	16999
S32	"bulimia nervosa".mp.	7970
S33	"disordered eating".mp.	4567
S34	"restrained eating".mp.	748
S35	"restrictive eating".mp.	517
S36	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23	10809

S37	24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35	135404
S38	36 and 37	224

Appendix 1.3 CCAT Form

Reviewer

Cta$on	
	Year

Research design (add if not listed)	
❑ Not research	Ar'cle | Editorial | Report | Opinion | Guideline | Pamphlet | …
❑ Historical	…
❑ Qualita0ve	Narra've | Phenomenology | Ethnography | Grounded theory | Narra've case study | …
❑ Descrip(ve, Exploratory, Observa(onal	A. Cross-sec'onal | Longitudinal | Retrospec've | Prospec've | Correla'onal | Predic've | … B. Cohort | Case-control | Survey | Developmental | Norma've | Case study | …
Experimental	❑ True Pre-test/post-test control group | Solomon four-group | Post-test only control group | Randomised two-factor | experiment Placebo controlled trial | … ❑ Quasi- Post-test only | Non-equivalent control group | Counter balanced *(cross-over)* | Mul'ple 'me series | experiment Separate sample pre-test post-test [no Control] [Control] | … ❑ Single One-shot experimental *(case study)* | Simple 'me series | One group pre-test/post-test | Interac've | Mul'ple baseline | system Within subjects *(Equivalent 5me, repeated measures, mul5ple treatment)* | …
❑ Mixed Methods	Ac'on research | Sequen'al | Concurrent | Transforma've | …
❑ Synthesis	Systema'c review | Cri'cal review | Thema'c synthesis | Meta-ethnography | Narra've synthesis | …
❑ Other	…

Variables and analysis		
Interven0on(s), Treatment(s), Exposure(s)	Outcome(s), Output(s), Predictor(s), Measure(s)	Data analysis method(s)

Sampling								
Total size		Group 1		Group 2		Group 3		Group 4		Control
Popula0on, sample, seDng										

Data collec$on (add if not listed)	
Audit/Review a) Primary | Secondary | … b) Authorita've | Par'san | Antagonist | … c) Literature | Systema'c | …	Interview a) Formal | Informal | … b) Structured | Semi-structured | Unstructured | … c) One-on-one | Group | Mul'ple | Selfadministered | …
Observa0on a) Par'cipant | Non-par'cipant | … b) Structured | Semi-structured | Unstructured | … c) Covert | Candid | …	Tes0ng a) Standardised | Norm-ref | Criterion-ref | Ipsa've | … b) Objec've | Subjec've | … c) One-on-one | Group | Self-administered | …

Scores								
Preliminaries		Design		Data Collec0on		Results		Total [/40]	
Introduc0on		Sampling		Ethical MaPers		Discussion		Total [%]	

General notes

Category Item	**Item descriptors** [Present; Absent; ■ Not applicable]	**Descrip$on** **[Important informa-on for each item]**	**Score** [0–5]
1. Preliminaries			
Title	1. Includes study aims ❑ and design ❑		
Abstract (assess last)	1. Key informaCon ❑ 2. Balanced ❑ and informaCve ❑		
Text (assess last)	1. Sufficient detail others could reproduce ❑ 2. Clear/concise wriCng ❑, table(s) ❑, diagram(s) ❑, figure(s) ❑		
		Preliminaries [/5]	
2. Introduc$on			
Background	1. Summary of current knowledge ❑ 2. Specific problem(s) addressed ❑ and reason(s) for addressing ❑		
Objec0ve	1. Primary objecCve(s), hypothesis(es), or aim(s) ❑ 2. Secondary quesCon(s) ❑		
	Is it worth con$nuing?	**Introduc$on [/5]**	
3. Design			
Research design	1. Research design(s) chosen ❑ and why ❑ 2. Suitability of research design(s) ❑		
Interven0on, Treatment, Exposure	1. IntervenCon(s)/treatment(s)/exposure(s) chosen ❑ and why ❑ 2. Precise details of the intervenCon(s)/treatment(s)/exposure(s) ❑ for each group ❑ 3. IntervenCon(s)/treatment(s)/exposure(s) valid ❑ and reliable ❑		
Outcome, Output, Predictor, Measure	1. Outcome(s)/output(s)/predictor(s)/measure(s) chosen ❑ and why ❑ 2. Clearly define outcome(s)/output(s)/predictor(s)/measure(s) ❑ 3. Outcome(s)/output(s)/predictor(s)/measure(s) valid ❑ and reliable ❑		
Bias, etc	1. PotenCal bias ❑, confounding variables ❑, effect modifiers ❑, interacCons ❑ 2. Sequence generaCon ❑, group allocaCon ❑, group balance ❑, and by whom ❑ 3. Equivalent treatment of parCcipants/cases/groups ❑		
	Is it worth con$nuing?	**Design [/5]**	

4. Sampling		
Sampling method	1. Sampling method(s) chosen ❑ and why ❑ 2. Suitability of sampling method ❑	
Sample size	1. Sample size ❑, how chosen ❑, and why ❑ 2. Suitability of sample size ❑	
Sampling protocol	1. Target/actual/sample populaCon(s): descripCon ❑ and suitability ❑ 2. ParCcipants/cases/groups: inclusion ❑ and exclusion ❑ criteria 3. Recruitment of parCcipants/cases/groups ❑	
	Is it worth con$nuing?	**Sampling [/5]**

5. Data collec$on		
Collec0on method	1. CollecCon method(s) chosen ❑ and why ❑ 2. Suitability of collecCon method(s) ❑	
Collec0on protocol	1. Include date(s) ❑, locaCon(s) ❑, se[ng(s) ❑, personnel ❑, materials ❑, processes ❑ 2. Method(s) to ensure/enhance quality of measurement/instrumentaCon ❑ 3. Manage non-parCcipaCon ❑, withdrawal ❑, incomplete/lost data ❑	
	Is it worth con$nuing?	**Data collec$on [/5]**

6. Ethical maJers		
Par0cipant ethics	1. Informed consent ❑, equity ❑ 2. Privacy ❑, confidenCality/anonymity ❑	
Researcher ethics	1. Ethical approval ❑, funding ❑, conflict(s) of interest ❑ 2. SubjecCviCes ❑, relaConship(s) with parCcipants/cases ❑	
	Is it worth con$nuing?	**Ethical maJers [/5]**

7. Results		
Analysis, Integra0on, Interpreta0on method	1. A.I.I. method(s) for primary outcome(s)/output(s)/predictor(s) chosen ❑ and why ❑ 2. AddiConal A.I.I. methods (e.g. subgroup analysis) chosen ❑ and why ❑ 3. Suitability of analysis/integraCon/interpretaCon method(s) ❑	
Essen0al analysis	1. Flow of parCcipants/cases/groups through each stage of research ❑ 2. Demographic and other characterisCcs of parCcipants/cases/groups ❑ 3. Analyse raw data ❑, response rate ❑, non-parCcipaCon/withdrawal/incomplete/lost data ❑	
Outcome, Output, Predictor analysis	1. Summary of results ❑ and precision ❑ for each outcome/output/predictor/measure 2. ConsideraCon of benefits/harms ❑, unexpected results ❑, problems/failures ❑ 3. DescripCon of outlying data (e.g. diverse cases, adverse effects, minor themes) ❑	
		Results [/5]

8. Discussion		
Interpreta0on	1. InterpretaCon of results in the context of current evidence ❑ and objecCves ❑ 2. Draw inferences consistent with the strength of the data ❑ 3. ConsideraCon of alternaCve explanaCons for observed results ❑ 4. Account for bias ❑, confounding/effect modifiers/interacCons/imprecision ❑	
Generalisa0on	1. ConsideraCon of overall pracCcal usefulness of the study ❑ 2. DescripCon of generalisability (external validity) of the study ❑	
Concluding remarks	1. Highlight study's parCcular strengths ❑ 2. Suggest steps that may improve future results (e.g. limitaCons) ❑ 3. Suggest further studies ❑	
		Discussion [/5]

9. Total

Total score	1. Add all scores for categories 1–8	
		Total [/40]

Appendix 2.1 Major Research Project Proposal

https://osf.io/3y796

Appendix 2.1 Completed COREQ Checklist

Topic	Item No.	Guide QuesPons/DescripPon	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characterisccs			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	62
Credenwals	2	What were the researcher's credenwals? E.g. PhD, MD	1
Occupawon	3	What was their occupawon at the wme of the study?	62
Gender	4	Was the researcher male or female?	62
Experience and training	5	What experience or training did the researcher have?	-
Relaconship with parccipants			
Relawonship established	6	Was a relawonship established prior to study commencement?	64-65
Parwcipant knowledge of the interviewer	7	What did the parwcipants know about the researcher? e.g. personal goals, reasons for doing the research	NA
Interviewer characteriswcs	8	What characteriswcs were reported about the inter viewer/facilitator? e.g. Bias, assumpwons, reasons and interests in the research topic	66
Domain 2: Study design			
Theoreccal framework			62-63
Methodological What and Theory study? e.g.	9	methodological orientawon was stated to underpin the 62- grounded theory, discourse analysis, ethnography, phenomenology, content analysis	63 orientawon
Parccipant seleccon			
Sampling	10	How were parwcipants selected? e.g. purposive, convenience, consecuwve, snowball	63-64
Method of approach	11	How were parwcipants approached? e.g. face-to-face, telephone, mail, email	64-65
Sample size	12	How many parwcipants were in the study?	63-64
Non-parwcipawon	13	How many people refused to parwcipate or dropped out? Reasons?	63-64
Seeng			
Sexng of data collecwon	14	Where was the data collected? e.g. home, clinic, workplace	64-65
Presence of nonparwcipants	15	Was anyone else present besides the parwcipants and researchers?	63-64
Descripwon of sample	16	What are the important characteriswcs of the sample? e.g. demographic data, date	66
Data collecton			

Interview guide	17	Were queswons, prompts, guides provided by the authors? Was it pilot tested?	64
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	N/A
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	64-65
Field notes	20	Were field notes made during and/or azer the inter view or focus group?	64-65
Durawon	21	What was the durawon of the inter views or focus group?	65
Data saturawon	22	Was data saturawon discussed?	63
Transcripts returned	23	Were transcripts returned to parwcipants for comment and/or correcwon?	65
Topic	**Item No.**	**Guide QuesPons/DescripPon**	**Reported on Page No.**
Domain 3: analysis and findings			
Data analysis			67-73
Number of data coders	24	How many data coders coded the data?	65
Descripwon of the coding tree	25	Did authors provide a descripwon of the coding tree?	N/A
Derivawon of themes	26	Were themes idenwfied in advance or derived from the data?	66
Sozware	27	What sozware, if applicable, was used to manage the data?	N/A
Parwcipant checking	28	Did parwcipants provide feedback on the findings?	65
Reporcng			
Quotawons presented	29	Were parwcipant quotawons presented to illustrate the themes/findings? Was each quotawon idenwfied? e.g. parwcipant number	67-73
Data and findings consistent	30	Was there consistency between the data presented and the findings?	80
Clarity of major themes	31	Were major themes clearly presented in the findings?	67
Clarity of minor themes	32	Is there a descripwon of diverse cases or discussion of minor themes?	N/A

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Appendix 2.3 Participant Information Sheet

https://osf.io/ex6gf

Appendix 2.4 NHS REC Letter of Approval

NHS
Health Research Authority

West Midlands - Solihull Research Ethics Committee
Equinox House
City Link
Nottingham
NG2 4LA

20 September 2022

Mrs Julie Vibholm
Institute of Mental Health and Wellbeing
University of Glasgow, Administrative Building, Gartnavel Hospital
1055 Great Western Road
G12 0HX

Dear Mrs Vibholm

Study title:	**An exploration of the relationship between veganism and adult eating disorders: An Interpretative Phenomenological Analysis.**
REC reference:	**22/WM/0133**
Amendment number:	**AM01 GN22MH184**
Amendment date:	**01 September 2022**
IRAS project ID:	**307969**

The above amendment was reviewed by the Sub-Committee in correspondence.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Completed Amendment Tool [307969_AM01 GN22MH184_sponsor authorised]	1	01 September 2022
Other [Appendix 5 - Telephone Screening Document amended]	3	22 August 2022
Other [Clean version Appendix 4- Participant Information Sheet amended version]	3	22 August 2022
Other [Clean Version Appendix 5 - Telephone Screening Document Amended]	3	22 August 2022
Other [Clean Version Appendix 7- Consent Form amended version]	3	02 September 2022
Other [Clean version JV Research Protocol amended version]	3	22 August 2022
Participant consent form [Appendix 7- Consent Form amended version]	3	02 September 2022

Appendix 2.5 REC Data Breach Outcome

REC queries REC reference: 22/WM/0133, IRAS project ID: 307969 - B24-10

S

Solihull<solihull.rec@hra.nhs.uk>

To: Emma-Jane Gault

Thu 18/04/2024 16:24

Cc: Rory O'Connor; Julie Vibholm (PGR); Solihull <solihull.rec@hra.nhs.uk>

Dear Emma-Jane

Thank you for your response to the Sub-Committees queries. I can confirm these have been reviewed and the Sub-Committee is happy that there are no outstanding ethical concerns to address. This breach notification is now closed.

Also, I can confirm that Sub-Committee agreed that it would be acceptable for the clinical team to contact the 3 participants concerned to seek re-consent.

Kind regards
Amanda

Amanda Carr
Approvals Administrator
Bromley Research Ethics Committee
Solihull Research Ethics Committee
London City and East Research Ethics Committee
Health Research Authority
T. 0207 1048124
W. www.hra.nhs.uk

Please note that my hours are part-time and that there may be times during the normal working day when I am

Appendix 2.6 Telephone Screening Questions

https://osf.io/eq57u

Appendix 2.7 Additional Screening Questions

https://osf.io/8gdxq

Appendix 2.8 Consent Forms

https://osf.io/kb6wt

Appendix 2.9 Interview Schedule

https://osf.io/gqypu

Appendix 2.10 Demographic Questionnaire

https://osf.io/aujfm

Appendix 2.11: Exploratory Notes and Experiential Statements (Extract)

Experiential Statement		**Transcript** (I: Interviewer, P: Participant)	**Exploratory Notes** Descriptive, <u>Linguistic</u> *Conceptual*
Breaking her ED food rules to stay true to her vegan beliefs I can't compromise on my veganism now A moment of insight I was powerless but I had no choice	90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127	**P:** I so you know high density calorie… Like my eating disorder would absolutely not allow that in my meal plan. But the health side of me knows that … You know, that's actually essential towards me achieving recovery. Ehm… I'm making steps towards recovery. Ehm… I'm not currently at a stage where I feel that I could implement a non-vegan foods into my meal plan. It is something that I've considered but I'm… I feel like if I'm able to I will follow a vegan diet I and go through my recovery. I… unless like circumstances dictate for some reason that it's not possible. If it's yeah, I… If it comes completely unrealistic. **I:** Do you mind me asking what would those circumstances look like if you can... If you can think of that, it might be quite abstract, but…. **P:** Well, for instance, I've had to… I... I mean, I've been NG fed, nasogastric… ehm… And that has not always been vegan. But at that point in time, like, I mean I would not have had a choice. I would not be here if I did not… I… and I did not really allow that at the time. It was against my will I. And at that point, I was under the, I…. The mental health act. Ehm… But at the stage, if say I was unwell and I needed to… I was in hospital, for instance they weren't able to fulfil a vegan meal plan then. And then order to keep me keep myself well, I then I would have to. I would have no choice. I know that I'm currently still like... I'm not recovered enough to take a chance at missing meals and avoiding in order to… like…. I prioritise the veganism over eating disorder recovery.	Challenging to eat the vegan diet that is necessary for recovery *Loss of control and regaining control according to veganism Insight?* Torn - can't accept that a non-vegan diet in treatment may be necessary for recovery. <u>Only if circumstances dictate it</u> *Put onus on others to make decision.* <u>Recognise that she had to break</u> <u>veganism to survive</u> Broke veganism against her will but no one had a choice <u>Starting and stopping.</u> <u>Short sentences.</u> *Difficult to talk about treatment and being forced?*

Veganism is more important than recovery	128 129 130 131		*Accepting when overriding veganism is required for survival.* *Still ill but veganism is more important than ED recovery.* Veganism maintaining factor? Is this ED related?

Appendix 2.12: Additional Supporting Quotes for Subthemes

Group Experiential Theme	*Subtheme*	Quote
Starting their vegan journey on the eating disorder trajectory	*A gradual conscious transition*	Olivia described her transition from vegetarianism to veganism: "*Verging on becoming vegetarian before the eating disorder, just because I didn't miss meat. […] but I can see now the eating disorder was already there when I was starting to think about trying to eat a vegan diet."* (Olivia) Sophia's use of language highlights the conscious aspect of her decision: *"[...] I made the decision that it was something that I felt I could manage. [...]"* (Sophia).
	Many Motivations	As illustrated by their quotes, Lea, Sophia, and Olivia had different motivations for veganism: *"[…] It was just a book on animal rights […] and there was just no going back. […]"* (Lea). *"[...]industrial farming and things like that just has never sat right with me [...]"* (Sophia).

		"[...] be honest to to some extent trying to encourage myself a bit to be more mindful of what it was I was eating, because with the eating disorder, quite often my eating felt very out of control with binges and things […]" (Olivia).
	Maintenance and control	For Olivia, veganism was a prescribed way of living: *"Eating vegan but also only healthy vegan. So like I'm not going to eat vegan chocolate because yes, it's vegan, but it's unhealthy".* (Olivia) Sophia acknowledged that her ED and veganism are connected. This is illustrated in the following statement: *" I don't feel like the the veganism and eating disorder are are too tied in together. I think that there is maybe some entanglement [...]"* (Sophia)
	Their two identities	When Olivia is recovered, she hopes that her vegan identity is the stronger of the two. She describes this in the following excerpt: *"[…] where part of me wouldn't consider the non-vegan or like fleetingly consider the non-*

		vegan one because the numbers are better like." (Olivia) Sophia described how veganism has contributed positively to her recovery and made her stronger: *"[…] being vegan has helped me recover from my anorexia because it's. (pause) because I know exactly what I need"* (Sophia) For Lea and Sophia, their veganism also seemed to provide a new identity as they recovered. This is shown below in Sophia's quote: *"[…] this is what I want my lifestyle to look like […]"* (Sophia)
	A smokescreen	Lea and Olivia also described how the popularity of veganism in society, and availability of vegan alternatives had made it increasingly challenging for them to use veganism as a cover and excuse to restrict their dietary intake. Olivia's comment shows how she finds it more difficult to use veganism as her excuse to say no to foods: *"there's lots of vegan chocolate now, so I can't really use that as a…"* (Olivia)

Their journey through the system	*Cognitive dissonance*	Olivia's quote below illustrates how eating vegan foods also leads to dissonance in relation to her ED: *"[…] Like I myself don't want to eat it because it's from an animal, but for the eating disorder it would be like ideal because of the numbers."* (Olivia)
	Who is genuine?	Lea's described the frustration she felt in relation to other patients who used veganism to hide their ED, and how their actions had resulted in negative consequences for how she was viewed by healthcare professionals: *"So I used to resent these people because I think you're going to give me a bad name."* (Lea)
	Treatments - a barrier or the road to recovery?	For Sophia, complying with non-vegan treatment and compromising on her veganism to get out of treatment led her to quickly deteriorate again. Not having a choice regarding a non-vegan treatment prevented her from improving and it appears she perceived this to have contributed to her relapses. This is illustrated in her quote:

		"This is what you'll be eating. It's very like prescribed. I like follow this exactly and you'll get to go home basically… And I…. And you know, I did. I followed that religiously." (Sophia) *"Then it would quite quickly unravel. I incredibly, like very dangerously quickly."* (Sophia)
	The contrast in treatments; feeling powerless and being passive versus collaboration and engagement	For Sophia, a way to take back power and control was through transitioning into a vegan diet as shown in her quote: *"I was going to take charge a bit and I was gonna make the decision that I was gonna be following a vegan lifestyle and… I… I think at that point that was when the eating disorder may have had had some influence in me deciding to I follow that lifestyle.*" (Sophia) In Olivia's experience, it was helpful when clinicians did not make assumptions about her veganism, and instead tried to understand her choices. She contemplated this in the following excerpt: *[….] not to make an assumption, but maybe like help to try and understand it and explore it a bit, which I think is what experience I've*

		had. Like, I don't feel like I've been told this is definitely this […] (Olivia)