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Abstracts

Systematic Review of the Literature (SRL): Feeding and Eating Disorders in children, adolescents and young people with Attention Deficit Hyperactive Disorder- prevalence, clinical presentations and treatment considerations: A systematic Review

Objective: Two previous systematic reviews investigated co-morbid diagnoses of eating disorders and Attention Deficit Hyperactive Disorder (ADHD) in children and adolescents. This study updated the reviews and addressed methodological limitations.

Method: PubMed, Embase and Psycinfo databases were searched. Inclusion criteria: studies with participants with a diagnosis of ADHD and an eating disorder, aged 25 or under. A second reviewer completed a portion of screening, data extraction and quality appraisal. Inter-rater reliability was good.

Results: There were 25 included studies. Twelve investigated prevalence of co-morbid ADHD and eating disorders. There were increased odds of ADHD in those with an eating disorder (1.74 (95% CI: 1.33-2.26) to 3.47 (2.28-5.31)) and increased odds of eating disorder in those with ADHD (11.17 (95% CI: 9.82-12.71) to 18.30 (95% CI: 16.74-20.00)). Thirteen treatment studies outlined symptoms consistent with ADHD and eating disorder diagnoses. Twenty of the included studies had either three, four or five of the five items in the Mixed Methods Approval Tool, reflecting a low risk of bias.

Discussion: This review demonstrated heightened prevalence of eating disorders in those with ADHD and of ADHD in those with eating disorders. Authors rarely commented on whether symptoms were impacted by the comorbidity. The interaction of ADHD and eating disorder symptoms was rarely named explicitly. Clinical implications include highlighting the potential usefulness of adapting psychological interventions for eating disorders, in those with ADHD, and monitoring appetite suppression from medication. Future research, with experts by experience, to evaluate adaptations to psychological treatments may prove useful.

Service Improvement Project (SIP): The experience of veterans of the Global Majority seeking support via the OpCourage Mental Health Veteran Service.

Background: Veterans of the Global Majority (GM) face many barriers to seeking help, including stigma and institutional racism. OpCourage, a National Health Service veteran mental health service, identified difficulties with accessing feedback from GM veterans and wanted to better understand the needs of individuals from racialised backgrounds. The project aimed to determine the number of GM veterans supported by OpCourage and to learn about the experiences of GM veterans and staff.

Method: Routine data was analysed to investigate numbers of GM veterans seen by the service over a three-year period. Four interviews with GM veterans and a focus group of thirteen mental health professionals were conducted and analysed using inductive thematic analysis. Codes were reviewed by a second researcher.

Results: GM veterans made up 7% of referrals to the Treatment, Intervention and Liaison Service (TILS) and 12% of the onward TILS referrals to the Complex Treatment Service for psychological therapy. Six themes emerged from GM veterans: racial trauma in the military, stigma, cultural differences, lack of knowledge of mental health services, effortful referral process and flexibility of treatment. Five themes emerged from a staff focus group: adaptations for therapists, cultural sensitivity, sharing knowledge, reaching out to communities and well-intentioned but hesitant staff.

Discussion: This work gave voice to marginalised veterans leading to recommendations including: staff directly addressing race with veterans in treatment and OpCourage networking with community groups. It is hoped increased awareness of racially traumatic experiences of GM veterans in the British military may lead to increased efforts to reduce racial trauma and offer equitable treatment and on a broader scale, reducing the stigma associated with mental health difficulties within the military may prove useful. It proved difficult to interview a larger sample of GM veterans despite extensive recruitment attempts, therefore, barriers to recruitment have also been considered.

Theoretically Driven Research Project (TDRP): Does appearance anxiety differ between cisgender individuals and transgender individuals who have and have not begun gender-affirming medical interventions?

Purpose of research: This project aimed to investigate differences in appearance anxiety in transgender individuals who have and have not had gender-affirming medical interventions (GAMI). This study compared appearance anxiety in cisgender people and transgender people who have and have not had GAMI and investigated what predicts this change.

Principal results: An analysis of co-variance (ANCOVA), controlling for age and depression, showed a significant difference in appearance anxiety between the gender identity groups, $F(2, 206) = 8.76, p < .001$ partial $\eta^2 = .078$. Transgender individuals who had not begun GAMI had significantly greater appearance anxiety compared to cisgender participants (mean difference of 7.12 (95% CI, 2.45 to 11.79), $p < .001$) and transgender individuals who had begun GAMI (mean difference of 7.38 (95% CI, 2.24 to 12.52), $p = .002$). There was no significant difference between transgender individuals who had begun GAMI and cisgender individuals (mean difference of -0.255 (95% CI, -5.37 to 4.86), $p = 1.00$).

Major Conclusions: Transgender individuals who had not begun GAMI had higher levels of appearance anxiety compared to cisgender controls. This increase in appearance anxiety was not seen in transgender individuals who had begun GAMI; suggesting increased access to GAMI may reduce appearance anxiety.

Systematic Review of Research Literature

**Feeding and Eating Disorders in children, adolescents and young people with Attention
Deficit Hyperactive Disorder- prevalence, clinical presentations and treatment
considerations: A Systematic Review**

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Proposed Journal: This report is intended to be published in the International Journal of Eating Disorders (see appendix 1.1 for Author guidelines). This journal has been chosen due to its focus on issues relevant to eating disorders.

Abstract

Objective

Two previous systematic reviews investigated co-morbid diagnoses of Eating disorders and Attention Deficit Hyperactive Disorder (ADHD) in children and adolescents. This study updated the reviews and addressed methodological limitations.

Method

PubMed, Embase and Psychinfo databases were searched. Inclusion criteria: studies with participants with a diagnosis of ADHD and an eating disorder, aged 25 or under. A second reviewer completed a portion of screening, data extraction and quality appraisal. Inter-rater reliability was good.

Results

There were 25 included studies. Twelve investigated prevalence of co-morbid ADHD and eating disorders. There were increased odds of ADHD in those with an eating disorder (1.74 (95% CI: 1.33-2.26) to 3.47 (2.28-5.31)) and increased odds of eating disorder in those with ADHD (11.17 (95% CI: 9.82-12.71) to 18.30 (95% CI: 16.74-20.00)). Thirteen treatment studies outlined symptoms consistent with ADHD and eating disorder diagnoses. Twenty of the included studies had either three, four or five of the five items in the Mixed Methods Approval Tool, reflecting a low risk of bias.

Discussion

This review demonstrated heightened prevalence of eating disorders in those with ADHD and of ADHD in those with eating disorders. Authors rarely commented on whether symptoms were impacted by the comorbidity. The interaction of ADHD and eating disorder symptoms was rarely named explicitly. Clinical implications include highlighting the potential usefulness of adapting psychological interventions for eating disorders, in those with ADHD,

and monitoring appetite suppression from medication. Future research, with experts by experience, to evaluate adaptations to psychological treatments may prove useful.

Keywords: eating disorders, Attention Deficit Hyperactive Disorder, ADHD

**Feeding and Eating Disorders in children, adolescents and young people with Attention
Deficit Hyperactive Disorder- prevalence, clinical presentations and treatment
considerations: A Systematic Review**

Feeding and eating disorders

Eating disorders have the highest mortality rate among mental illnesses (Harris & Barraclough, 1998). Eating disorder diagnoses include Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED) and Other Specified Feeding or Eating disorders (OSFED) (APA, 2013). The DSM-5 feeding and eating disorders also include pica, avoidant/ restrictive food intake disorder (ARFID) and rumination disorder (Lindvall Dahlgren et al., 2017). A summary of the eating disorders included in the DSM-5 including clinical features, prevalence and age of onset are included in table 1.1.

AN, BN and to some extent BED share similar clinical features. They typically occur from late adolescence (Silén et al., 2020; Stice et al., 2013; Udo & Grilo, 2018). In contrast, ARFID, Pica and rumination disorder show distinct differences and tend to have an age of onset earlier in childhood (Di Cara et al., 2023).

Table 1.1. Table summarising eating disorders

Eating disorder	Clinical features	Prevalence	Age of onset
Anorexia Nervosa (AN)	<ul style="list-style-type: none"> • Overvaluation of shape and weight. • Food restriction and other methods to lose weight such as excessive exercise • Intense fear of gaining weight (Morris & Twaddle, 2007) • Self-imposed weight loss (Morris & Twaddle, 2007). 	Lifetime AN: 0.80% (SE 0.07%) in a United States sample (Udo & Grilo, 2018).	Peak age of onset: adolescence, estimates from 14-18 (Favaro et al., 2009; Volpe et al., 2016; Wentz et al., 2009).

	<ul style="list-style-type: none"> • Two subtypes: restricting and binge-eating/ purging subtype (Peat et al., 2009). 		
Bulimia Nervosa (BN)	<ul style="list-style-type: none"> • Recurrent binges- consuming larger amounts of food than would be considered typical (APA, 2013). • Compensatory behaviours such as self-induced vomiting, excessive exercise and misuse of laxatives or diuretics (Hail & Le Grange, 2018). • Overvaluation of shape and weight, as is the case with AN. • Feelings of loss of control or impulse control difficulties (Wilfley et al., 2000; Zeeck et al., 2011). 	Lifetime BN: 0.28% (SE 0.03%) in a United States sample (Udo & Grilo, 2018).	Peak age of onset: adolescence, estimates from 16-20 (Favaro et al., 2009; Keski-Rahkonen et al., 2009; Volpe et al., 2016).
Binge Eating Disorder (BED)	<ul style="list-style-type: none"> • Recurrent binges and marked distress (APA, 2013). • There are no compensatory behaviours (Wilfley et al., 2016). • Feelings of loss of control or impulse control difficulties (Wilfley et al., 2000; Zeeck et al., 2011). 	Lifetime BED: 0.85% (SE 0.05%) in a United States sample (Udo & Grilo, 2018). There is variability in prevalence estimates.	Mean age of onset estimated: 23.3 years (Interquartile range: 15.5-27.2) (Kessler et al., 2013).
Avoidant Restrictive Food Intake Disorder (ARFID)	<ul style="list-style-type: none"> • Disturbance in eating behaviour that results in failure to meet appropriate nutritional and/or energy needs • Medical and psychosocial problems (Archibald & Bryant-Waugh, 2023). • May occur because of sensory sensitivity, an aversion to specific tastes, textures, smells or a 	Prevalence: 0.3% to 5.5% in non-clinical samples (Sanchez-Cerezo et al., 2023).	Average age of onset: 9 and 12 years (Di Cara et al., 2023).

		traumatic experience such as choking or vomiting (Thomas et al., 2017).	
Pica	<ul style="list-style-type: none"> • Repeated ingestion of non-food items that lack nutritional value. • Can result in complications including nutritional deficiencies, choking, poisoning and parasites in the gastrointestinal system (Fields et al., 2021). 	<p>Pica behaviour prevalence: 3.5% of population-based controls aged 30-68 months.</p> <p>Increased prevalence rates in Autism (23.2%) and Intellectual disabilities (8.4%) (Fields et al., 2021).</p>	Age of onset: childhood (APA, 2013)
Rumination Disorder	<ul style="list-style-type: none"> • Recurrent vomiting of ingested food (Hartmann et al., 2022). • Not accompanied by nausea and does not occur because of a physical condition (Hartmann et al., 2022). 	The pooled prevalence of rumination disorder in children was 2.1% (95% CI: 0.9-3.4) (Haworth et al., 2024).	Common age of onset: childhood (APA, 2013)
Other Specified Feeding and Eating Disorder (OSFED)	<p>Formal diagnostic category which consists of:</p> <ul style="list-style-type: none"> • Atypical anorexia nervosa • Purging Disorder • Night Eating syndrome • Subthreshold BN and BED (Riesco et al., 2018) 	Prevalence: 1.5% (Mustelin et al., 2016)	Mean age of onset: 18 (Mustelin et al., 2016)

Model of Eating Disorders: shape and weight concerns, dietary restriction and impulsivity

A transdiagnostic cognitive-behavioural model of eating disorders hypothesises that people with AN and BN judge their self-worth on their weight and shape, and their control (Fairburn et al., 2009; Fairburn et al., 2003). When control of eating is lost, dietary habits develop with

binge eating and compensatory behaviours. The binge-purge cycle further increases concern about weight and shape, and reinforces dietary restraint (Fairburn et al., 2003). The model also incorporates clinical perfectionism, low self-esteem, mood intolerance and interpersonal difficulties (Fairburn et al., 2009). Enhanced cognitive behavioural therapy (CBT-E), based on the transdiagnostic model, has been efficacious in adolescents with eating disorders (Dalle Grave et al., 2013; Dalle Grave et al., 2015).

There is a cognitive behavioural model of ARFID which proposes an underlying biological predisposition, for example a high concentration of taste buds, or a food related trauma leading to negative feelings and predictions about eating. Food avoidance and restriction limits opportunities for exposure, maintaining the negative predictions and leads to low weight and nutritional deficiencies (Eddy & Thomas, 2018). Cognitive behavioural therapy, informed by the cognitive behavioural model, has been beneficial in case reports and case series for children with ARFID (Thomas et al., 2018). However, there are difficulties establishing causality of interventions from case reports (Nissen & Wynn, 2014).

Treatments

The evidence for adolescents with AN best supports family-based treatment (FBT) (Couturier et al., 2013). The Maudsley model of FBT focuses on behavioural change, parents as experts, and empowering parents to be a resource for recovery (Rienecke, 2017). National Institute for Health and Care Excellence (NICE) also recommend systemic family therapy and cognitive behavioural therapy (CBT) for AN and BN and Adolescent Focused therapy (AFT) for anorexia (NICE, 2017).

No pharmacological treatments are recommended for children and adolescents with eating disorders (Costandache et al., 2023). In adults, fluoxetine is approved for BN and

lisdexamfetamine for BED (Himmerich et al., 2021). No pharmacological options are approved for AN, although results for olanzapine and dronabinol are promising (Himmerich et al., 2021).

Attention Deficit Hyperactive Disorder

Attention Deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder with symptoms lasting into adulthood (Doernberg & Hollander, 2016). There are three subtypes: predominantly inattentive, predominantly hyperactive-impulsive and a combined subtype. The combined subtype is the most common (Wilens et al., 2009). For diagnosis, ADHD symptoms need to be present before age twelve (Epstein & Loren, 2013).

A study found ADHD had a pooled prevalence estimate of 7.2% (95% CI: 6.7 to 7.8) (Thomas et al., 2015). In a survey of people with clinical features of ADHD, 95% retrospectively reported an onset before twelve and 99% reported an onset before sixteen (Kessler et al., 2005). However retrospective reporting, used to evaluate the age of onset for ADHD, does introduce recall error which can jeopardise the robustness of evidence; as recall ability decreases over time, long recall periods could lead to errors in reporting (Moreno-Serra et al., 2022).

Behavioural Inhibition Model of ADHD

The Behavioural Inhibition Model of ADHD hypothesises behavioural inhibition is the cognitive ability to stop an ongoing response (Schachar et al., 2000). In those with ADHD, responses may not be overridden (Aman et al., 1998). Those with inattentive ADHD have shown reduced attention and made more errors where tasks included distracting stimuli (Pedersen & Ohrmann, 2018; Sadeghi et al., 2019).

Treatments

A systematic review of pharmacological (mainly stimulants) and psychosocial treatment for adolescents with ADHD found medication and behaviour therapy produced a similar range of therapeutic effect on symptoms of ADHD (Sibley et al., 2014). Behavioural interventions included teaching parents to increase accountability for academics and teaching study strategies to improve planning and organisation skills, homework completion, reading comprehension and test preparation (Langberg et al., 2012; Meyer & Kelley, 2007; Sibley et al., 2013).

Commonalities between Eating disorders and ADHD

Behavioural commonalities

There are several behavioural commonalities seen between eating disorders and ADHD. For example, impulsivity is one of the three core symptoms of ADHD (Millar et al., 2010)..

Impulsivity is also thought to underpin bingeing behaviours seen in BN, BED and AN (Juarascio et al., 2015). Difficulties with impulsivity also extend to those with co-morbid Eating disorders and ADHD (Juarascio et al., 2015; Roth & Saykin, 2004).

Emotional dysregulation is another behavioural commonality associated with eating disorders and ADHD. Eating behaviour such as binge eating are associated with negative affect and emotion dysregulation (El Archi et al., 2020). ADHD has been associated with emotional dysregulation including difficulties managing anger, frustration and positive emotions (Bunford et al., 2015). The role of negative affect and emotion dysregulation has been studied as a mediator between disordered eating and ADHD previously; finding a mediating relationship (El Archi et al., 2020).

Neurobiology

Common neurobiological pathways are involved in eating disorders and ADHD. Imaging studies have found alterations in dopamine in those with eating disorders and separately in those with ADHD, indicating dopamine dysregulation (Bush et al., 2005; Casey & Durston, 2006; Frank, 2013). Dopamine transmission contributes to food desires and learning about food (Wise, 2006). Two theories supporting dopamine alterations are: the Dopamine Hypothesis suggesting ADHD is caused by malfunctioning dopamine receptors leading to low levels of dopamine (Levy, 1991) and Reward Deficiency syndrome suggesting those with fewer dopamine receptors receive less natural reinforcement and partake in riskier behaviours for rewards (Blum et al., 2008). There is evidence that reward pathways of those with eating disorders may be differentially sensitive to high-energy dense foods (Davis et al., 2012; Wang et al., 2011).

Pharmacological studies have shown improvements in ADHD symptoms following stimulant medication, which is thought to enhance neurotransmission of dopamine and noradrenaline (Arnsten, 2006). However, given stimulant misuse is more common in those with an eating disorder, generalising these findings to those with a comorbidity may pose difficulties (Gibbs et al., 2016).

However, the dopamine hypothesis has been criticised. Ritalin, a treatment which increases the levels of dopamine which binds to receptors, improved attention in patients with ADHD and healthy controls (del Campo et al., 2013). There were no case-control differences in dopamine receptor availability and the authors argued this suggests no underlying deficiency in dopamine function in ADHD patients (del Campo et al., 2013). Therefore,

while some have found common neurobiological differences between those with some eating disorders and ADHD, which may underpin the comorbidity, this needs further investigation.

Treatment outcome

Researchers investigating the effect of ADHD on treatment for eating disorders have suggested adult patients with higher ADHD symptoms present a higher risk of poor post-treatment outcome (Svedlund et al., 2018). Another study found in adults with eating disorders, screening positive for ADHD using a self-report scale was associated with higher eating disorder symptomatology; but this did not directly predict treatment outcome (Testa et al., 2020). Co-morbid ADHD was associated with inferior treatment outcome and increased dropout in eating disorder treatment, but this relationship was mediated by severity of eating disorder symptoms. The authors suggested clinically it may be relevant to identify specific approaches for patients with severe eating disorder symptoms and greater ADHD symptoms (Testa et al., 2020).

In patients with ADHD that have a co-morbid eating disorder, given ADHD usually has an earlier age of onset, it is suggested that paediatric patients with ADHD should be monitored for development of eating disorder behaviour and promote healthy eating (Bleck et al., 2015). It has been suggested ADHD medication holidays, defined as an agreed cessation of medication for a period of time, can positively impact eating behaviour in children (Howland, 2009; Martins et al., 2004).

Neurodevelopmental disorders and eating disorders

Given the comorbidity between ADHD and Autism Spectrum Conditions (ASC) ranges between 50 to 70%, with a pooled lifetime prevalence of 40.2% in a recent meta-analysis (Rong et al., 2021), it is helpful to consider research on ASC and eating disorders too. Increasingly, research has focused on co-occurring ASC and eating disorders given autistic people are disproportionately vulnerable to AN and other eating disorders (Inoue et al., 2021; Westwood & Tchanturia, 2017). There are behavioural similarities including detail-focused processing, impairments in executive function and cognitive inflexibility (Zhou et al., 2018). There is increased understanding that ASC can contribute to poor eating disorder treatment outcome (Westwood & Tchanturia, 2017). In the United Kingdom, the Pathway for Eating disorders and Autism developed from Clinical Experience (PEACE) pathway has been designed, with Experts by Experience, to provide adaptations to treatments for those with ASC and co-morbid eating disorders; following research into the comorbidity (Tchanturia et al., 2020). Increased understanding of the needs of those with comorbid ADHD, may help inform treatment pathways for those with eating disorders and ADHD too.

Existing reviews and rationale for a new review

To the authors' knowledge there are two systematic reviews looking at the relationship between eating disorders and ADHD. Curtin et al. (2013) synthesised literature looking at the associations between eating disorders (ED) or eating pathology (EP) and ADHD in adolescents. Five studies documented an association between ED or EP and ADHD in adolescents. Youths with ADHD were 3-6 times more likely to develop an ED than those without ADHD and have higher rates of eating pathology (Curtin et al., 2013).

Levin and Rawana (2016) summarised the literature on eating disorders and ADHD across the lifespan. Twenty-six studies supported an association between eating disorders or

disordered eating and ADHD. They suggest children with ADHD are at risk of disordered eating. Adolescents and adults are at risk of disordered eating and diagnosed eating disorders.

Methodological rationale

There are several methodological limitations to the previous reviews. There is no indication papers were screened independently, that data was extracted by two screeners nor does it report on the quality of the included studies (Levin & Rawana, 2016). This limits the conclusions that can be drawn from the study due to uncertainty about the rigour and validity of the included papers.

Curtin et al. (2013) synthesised associations between eating pathology and ADHD. Due to the inclusion of subthreshold symptoms, it is unclear if the increased prevalence in eating pathology and ADHD is also seen in those with eating disorder diagnoses and comorbid ADHD. A decade has passed since this review; providing rationale to update the review and include more recent papers. Additionally, clearer criteria have emerged for diagnosing BED in the clinic since its emergence as a separate diagnosis in the DSM-5 (APA, 2013).

An updated review capturing recent studies investigating eating disorders and comorbid ADHD and conducted with improved rigour in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines (appendix 1.2), using two independent screeners and appraising the quality of included studies (Shamseer et al., 2015) is a helpful addition to the literature.

Aims and research questions

The aim of this review is to further investigate the prevalence of, clinical features and treatment adaptations and considerations for those with eating disorders and ADHD in children, adolescents and young people; which has useful clinical implications (Mattos et al., 2004; Nazar et al., 2008).

The research questions have important clinical implications for early diagnosis, targeted interventions and adapting existing treatments:

Research Questions 1:

- What is the prevalence of eating disorders in those with a diagnosis of ADHD?
- What is the prevalence of ADHD in those a diagnosis of an eating disorder?

Research Question 2:

- How do eating disorders and ADHD present in children, adolescents and young people with this co-morbidity? Are there any distinct differences compared to non-comorbid presentations?

Research Question 3:

- What treatments or key considerations have been used in treating children, adolescents or young people with eating disorders and co-morbid ADHD? How effective have these treatments been?

Method

Screening and data extraction

The systematic review was pre-registered on Prospero (registration number: CRD42023374646). The following databases were searched for relevant papers: Ovid Medline, PsycINFO and Embase. The searches took place in October-November 2023 and the databases were re-screened in April 2024 to retrieve any additional papers. The key concepts were eating disorders and Attention Deficit Hyperactive disorder which initially informed the search terms. An example of the search terms can be seen in Appendix 1.3. Papers were exported to Microsoft Excel for screening against inclusion and exclusion criteria. A random number generator was used to select 20% of the titles and abstracts. These were screened by two screeners independently (RJ-BB and JH). Discrepancies were discussed and a third author was available to resolve discrepancies (MC). Independent screening took place to determine inter-rater reliability; reported using Cohen's Kappa (Shamseer et al., 2015) ($k = 0.814$, $p < 0.001$). Reasons for exclusion, when applicable, were noted.

Full texts were then screened against inclusion and exclusion criteria. Twenty-five per cent of the full text papers were screened independently by a second reviewer (JH). Inter-rater reliability was calculated. As inter-rater reliability was found to be good, the remaining full-text records were screened independently ($k = 0.883$, $p < 0.001$).

Inclusion criteria

- Participants with a diagnosis of a Feeding and Eating disorder and diagnosis of ADHD
- Studies published from 2013 onwards given the DSM-5 updates and includes papers published after the Curtin et al. paper
- Qualitative and quantitative studies

- Participants aged 25 years old or under

Exclusion criteria

- Participants with subthreshold symptoms of Feeding and Eating disorders and subthreshold symptoms of ADHD
- Participants who met one diagnosis (of a Feeding and eating disorder or ADHD) and subthreshold symptoms of the other condition
- Non-English language publications
- Review papers
- Patients forming part of a sample but not analysed separately
- Genetic analysis studies
- Conference abstracts with no full text available

The review is limited to participants with diagnoses for feasibility and to increase external validity to clinical populations. A previous review had investigated subthreshold symptoms and the authors acknowledge the benefits of this for those struggling with symptoms.

Data were extracted from included papers and presented in a pre-determined data extraction form (appendix 1.4). Given the research questions, two data extraction forms were used: one for prevalence and the second for treatments. A second author (JH) extracted data from 50% of the included papers. Narrative synthesis was used to synthesise results.

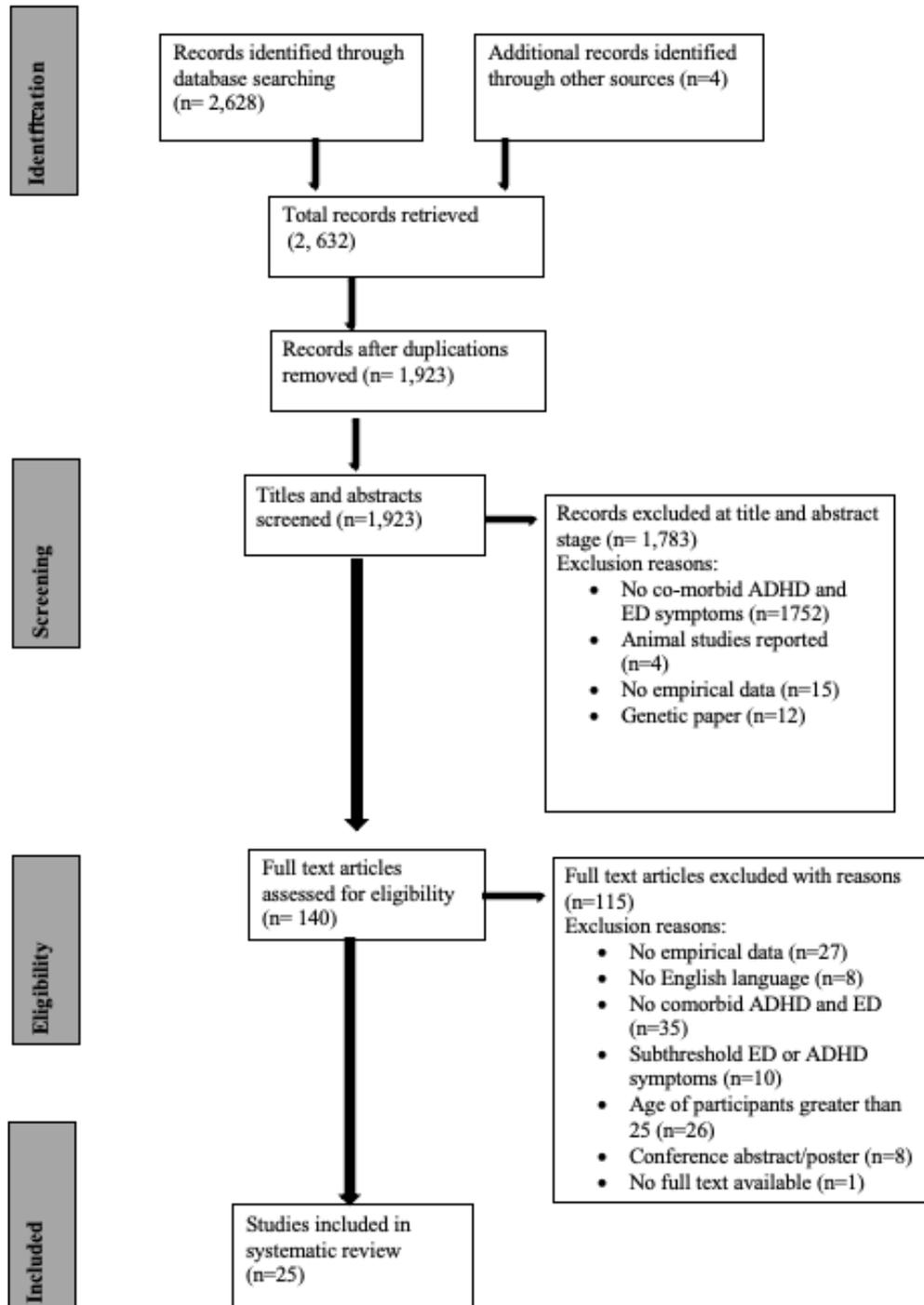
Quality appraisal

Included studies were quality assessed using the Mixed Methods Appraisal Tool (MMAT) (Pluye & Hong, 2014) as papers included a variety of study designs including quantitative

and qualitative case reports and quantitative case-control studies. Each design has five criteria with three responses: yes, no or can't tell. Thirty per cent of the included papers were quality appraised by two authors independently (RJ-BB and JH). As agreement was satisfactory, a single author (RJ-BB) completed the remainder of the quality appraisal ($k = 0.824$, $p < 0.001$).

Results

Figure 1.1. PRISMA flowchart showing number of studies at each stage of the screening process and reasons for exclusion



Characteristics of included studies

The search retrieved 2,632 studies, of which 25 met the inclusion criteria (see figure 1.1). Participants' ages ranged from 6 years to a mean of 20.67 years (Gunes et al., 2016; Halevy-Yosef et al., 2019). Studies had more females than males, reflecting gender differences in eating disorder prevalence rates.

Research Questions 1: Prevalence studies

Twelve of the included studies reported prevalence rates of co-morbid ADHD and eating disorders, see table 1.2 and 1.3 (Akgül et al., 2016; Convertino & Blashill, 2022; Guerdjikova et al., 2019; Halevy-Yosef et al., 2019; Mohammadi et al., 2020; Norris et al., 2021; Park et al., 2017; Ruiz-Ramos et al., 2021; Schiros & Antshel, 2023; Seo et al., 2022; Shan et al., 2021; Wentz et al., 2019).

AN was the most commonly investigated co-morbid eating disorder (5) (Akgül et al., 2016; Convertino & Blashill, 2022; Halevy-Yosef et al., 2019; Ruiz-Ramos et al., 2021; Schiros & Antshel, 2023). Four studies reported prevalence rates of co-morbid BN (Convertino & Blashill, 2022; Halevy-Yosef et al., 2019; Ruiz-Ramos et al., 2021; Schiros & Antshel, 2023). Three studies reported prevalence rates of co-morbid BED (Convertino & Blashill, 2022; Guerdjikova et al., 2019; Ruiz-Ramos et al., 2021). One study reported prevalence of co-morbid ARFID (Norris et al., 2021). Seven studies included the prevalence rate of an eating disorder and ADHD without specifying the eating disorder diagnosis.

Studies were conducted in Europe (2) (Shan et al., 2021; Wentz et al., 2019), Asia (5) (Akgül et al., 2016; Halevy-Yosef et al., 2019; Mohammadi et al., 2020; Park et al., 2017; Seo et al., 2022) and North America (5) (Convertino & Blashill, 2022; Guerdjikova et al., 2019; Norris et al., 2021; Ruiz-Ramos et al., 2021; Schiros & Antshel, 2023). Ethnicity of participants was reported in only one of the prevalence studies (Schiros & Antshel, 2023). In

the AN/BN and ADHD group, 64% of participants were White, 12% were Hispanic, 18% Asian, 7% Black, 7% Biracial and 5% Native American.

Research Questions 2 and 3: Clinical presentation and treatment studies

Thirteen of the included studies were case reports looking at treatment; and included a total of seventeen participants (Amrtavarshini et al., 2021; Bejerot et al., 2019; Benard et al., 2015; Bhat et al., 2023; Bourgou et al., 2021; Bresnahan et al., 2016; Gunes et al., 2016; Ioannidis et al., 2014; Keshen & Ivanova, 2013; Mestermann et al., 2023; Pennell et al., 2016; Pruccoli et al., 2023; Shear et al., 2021).

As indicated in table 1.4 and 1.5, four case studies reported patients with Anorexia nervosa and ADHD (Amrtavarshini et al., 2021; Bejerot et al., 2019; Mestermann et al., 2023; Shear et al., 2021), three case studies reported patients with bulimia nervosa and ADHD (Bhat et al., 2023; Ioannidis et al., 2014; Keshen & Ivanova, 2013). Two case studies included patients with Pica and ADHD (Bourgou et al., 2021; Gunes et al., 2016) and OSFED and ADHD (Benard et al., 2015; Bresnahan et al., 2016). Two studies included patients with ARFID/BED and ADHD respectively (Pennell et al., 2016; Pruccoli et al., 2023). Three case studies reported the country or continent where the patient presented: Sweden, Germany and Italy in Europe (Bejerot et al., 2019; Mestermann et al., 2023; Pruccoli et al., 2023). Ethnicity of patients was reported in only two of the clinical presentation and treatment studies (Benard et al., 2015; Shear et al., 2021). One patient was Hispanic and two were White.

Table 1.2. Study and demographic information for prevalence studies

Citation	Country	Study design	Study duration	Setting	Population	How ADHD and ED diagnosed	Gender	Age (Mean (SD; range))
<i>Eating disorder sample reporting on comorbid ADHD</i>								
Akgul et al. (2016)	Turkey	Retrospective chart review	4 year period (2010-2013)	Medical and psychiatric records of patients treated for an ED were re-evaluated in a Paediatric department and Child and Adolescent Psychiatry department.	2010-2013: 6 (46.1%) AN-R, 3 (23%) EDNOS and 1 (7.7%) BN. May and Dec 2013: 2 (15.4%) AN-BP and 1(.7%) AN-R.	Between 2010 and 2013: DSM-IV-R was used. After May 2013: DSM-5	Male	AN and EDNOS: 15 (1.76; 11.6-17.5) BN: 17 years. Case with co-morbid ADHD and AN: 17.4
Guerdjikova et al. (2019)	United States	Retrospective chart review	3 years: September 2014 to September 2017	Cincinnati Children's Hospital or University of Cincinnati Affiliates	BED	Psychiatric diagnoses had to be recorded at the time of lisdexamfetamine initiation	7 (28%) boys and 18 (72%) girls	16.5 (10-19)
Halevy-Yosef et al. (2019)	Israel	Cross sectional study design, between groups analysis	Not reported	Adolescent and adult ED Inpatient departments	33 BN, 18 AN-B/P, 34: AN-R, 7 PD	ED: DSM-5 criteria using SCID-I/P adapted for DSM-5. ADHD: ADHD module of K-SADS-PL	Female	ED with Binge eating: 20.67 (4.35); ED with non-binge

								eating: 18.36 (3.1)
Norris et al. (2021)	Canada	Cross-sectional	December 2014-June 2016	Hospital based multidisciplinary team of ED healthcare	ARFID	N/R	Females 16/26 (62.5%)	ARFID: median 13.86 (2.30; 9.49-17.51)
Ruiz-Ramos et al. (2021)	Mexico	Cross-sectional study with convenience sampling	2017 to 2020	Different services like emergency rooms and outpatient clinics	32 AN (17.11%), 104 BN (55.61%), 51 (27.27%) with BED	ED: Psychiatrist specialising in ED evaluated and diagnosed patients using DSM-5 criteria. ADHD: MINI-KID	144 females (77%); 43 males (23%)	Mean age: 14.08 (s.d: +/- 1.7)
Shan et al. (2021)	Denmark	Case control study	Live births from Jan 1995-December 2015	DNPR and Danish Psychiatric Central Research Register	National register	ADHD: ICD-10 (F90.0 and F98.8). FED: 98.2 and 50.8	FED group: 917 boys (47%), 1050 (53%) girls	N/R
Wentz et al. (2019)	Sweden	Case control study	N/R	Children's Hospital	LOC-E symptoms	ADHD: based on medical records or DAWBA. ED: DAWBA parental interview	37 girls and 39 boys	Total sample: 12.4 (3.0; 5.1-17.0)
<i>ADHD sample reporting on comorbid Eating disorders</i>								
Park et al. (2017)	Korea	Population based cohort study	Jan 2011- Dec 2011	Korean National HI-RA-NPS	National sample	ICD-8 was used until 1994, then replaced by ICD-10.	Whole sample: Boys: 115,414;	12.4 (3.7; 6-18)

							Girls: 106,136. ADHD sample: 1,710 boys (80%) and 430 girls (20%).	
Seo et al. (2022)	South Korea	Cross- sectional analytic study	January 2008- December 2018	Korean HIRA	National sample	ADHD: ICD-10 classification (F90). ED: ICD- 10 classification (F50)	Male 674,154 (76.7%); Female 204,842 (23.3%)	Whole sample: 0-6 (preschool) 74,963 (7.95%); 7- 12 (school) 441,90 (46.87%), 13-18 (adolescent) 302,480 (32.10%)
<i>General population sample</i>								
Convertino and Blashill (2022)	United States	N/R	N/R	ABCD study examining brain and cognitive development over the course of development. Children recruited through the school systems	AN: 0.1%; BN: 0.1%; BED 0.8%	Self-administered parent/guardian KSADS-5. DSM-5	Overall sample (%; SE): Male 51.1% (0.4); Female: 48.8% (0.4). ED sample only: Male 55.4% (3.8);	9-10

							Female 44.6% (3.8)	
Mohammadi et al. (2020)	Iran	Cross sectional survey	N/R	National sample. Diagnoses include: AN, BN, OSFED and PD	Nationally-representative IRCAP survey	ED: DSM-5 assessed with K-SADS-PL supplement for ED diagnosis ADHD: K-SADS-PL	Boys 13,272 (48.59%); Girls 13,839 (51.41%)	6-18: 6-9: 9,274 (34.21%), 10-14: 9,533 (35.16%), 15-18: 8,304 (30.63%)
Schiors and Antshel (2022)	United States	Retrospective survey	2015-2019	Secondary data analysis of ACHA-NCHA IIc. Survey of college students.	College students	ADHD: Self-report 'yes' to having currently a diagnosis of ADHD. AN or BN: Participants reported if they have a current diagnosis of AN or BN and if in the past 12 months they had received treatment.	AN/BN + ADHD: Females 1263 (68.2%), males 578 (28.7%), Transwoman: 16 (0.8%), Transman: 24 (1.2%), Genderqueer: 56 (2.8%), Other: 63 (3.1%)	Mean age: 20.39years (SD: 1.88)

Table 1.3. Data extraction for prevalence studies

Citation	Number with ADHD and ED	Sample	Prevalence rate of ED and ADHD (%)	Odds ratio	Key Differences
<i>Eating disorder sample reporting on comorbid ADHD</i>					
Akgul et al. (2016)	1	13	0.08 (8%)	N/R	N/R
Guerdjikova et al. (2019)	13	25 (20 of the initial 45 excluded)	0.52 (52%)	N/R	N/R
Halevy-Yosef et al. (2019)	N/R	51 with EDs involving BE, 59 with EDs not involving BE	AN-B/P and ADHD: 0.28 (28%) BN and ADHD: 0.12 (12%) AN-R and ADHD: 0.09 (9%)	N/R	Between group difference in ADHD diagnosis was not significant, although greater percentage of those with AN-B/P had ADHD compared to BN and AN-R ($\chi^2=5.27$, $p=0.072$)
Norris et al. (2021)	6	26	0.23 (23%)	N/A	N/R
Ruiz-Ramos et al. (2021)	ED and ADHD: 39 AN and ADHD: 3 BN and ADHD: 20 BED and ADHD: 16	187	ED and ADHD: 0.21 (21%) AN and ADHD: 0.09 (9%) BN and ADHD: 0.19 (19%) BED and ADHD: 0.31(31%)	N/R	48 patients (1.59%) had ADHD in a national Mexican adolescent population ¹ compared to 20.85% of patients with ED.

¹ National Mexican Adolescent population prevalence rate is taken from Benjet, C., Borges, G., Medina-Mora, M. E., Zambrano, J., & Aguilar-Gaxiola, S. (2009). Youth mental health in a populous city of the developing world: results from the Mexican Adolescent Mental Health Survey. *Journal of Child Psychology and Psychiatry*, 50(4), 386-395. <https://doi.org/https://doi.org/10.1111/j.1469-7610.2008.01962.x>

					Analysis between ED group or national sample: χ^2 : 239.05; $p < .001$. Increase of 19.26% in ADHD and ED population compared to non-ED population.
Shan et al. (2021)	68	FED: 1967	ADHD in FED: Prevalence: 0.03 (3%) Incidence rate per 1000 person years 3.33.	Increased risk of ADHD in FED compared to those without FED: Adjusted Hazard ratio ² 1.74 (95% CI: 1.33-2.26%)	N/A
Wentz et al. (2019)	ED and ADHD: 1 ³	Whole sample: 76	0.01(1%)	N/A	N/A
<i>ADHD sample reporting on comorbid Eating disorders</i>					
Park et al. (2017)	N/R	Whole sample: 221,550 ADHD: 2,140	ED in ADHD: 0.37 (0.35-0.40) (37%)	Odds of ED in ADHD compared to those without ADHD: 11.17 (95% CI 9.82-12.71)	N/A
Seo et al. (2022)		ADHD: 878,996	ED and ADHD: 0.08 (8%) (95% CI: 0.08-0.09)		N/A
<i>General population sample</i>					

² Adjusted for parity, parental age, maternal education, maternal origin, maternal cohabitation at birth, maternal smoking status during pregnancy, paternal history of psychiatric disorders before childbirth and pregnancy complications including diabetes and pre-eclampsia

³ 1 patient diagnosed with an eating disorder. LOC-E symptoms do not meet inclusion criteria of ED diagnosis

Convertino and Blashill (2022)	N/R	11,718 children	ADHD in AN: N/R (44.9%; SE: 18.4); ADHD in BN: N/R (58.9% ; SE: 25.8); ADHD in BED: N/R (53.4%; SE: 7.0)	Odds of ADHD if ED compared to no ED: 3.47 (2.28-5.31); p<0.001	N/R
Mohammadi et al. (2020)	11	30,532 140 FED	0.00 0.08 of those with FEDs (8%)	x ² : 4.927; p =0.026 Difference between ADHD between participants with FED and those without FED. Weighted % for those with feeding and eating disorders (95% CI): 7.59 (4.39-12.80).	N/R
Schiors and Antshel (2022)	ADHD and AN/BN: 2,011.	Whole sample: 342,432 ADHD diagnosis: 20,888. ED diagnosis: 6,882	General population: 0.01 (1%) ADHD in ED: 0.29 (29%) ED in ADHD: 0.1 (10%)	College students with self-reported ADHD were 18.30x as likely to self-report a diagnosis of AN or BN compared to controls without either condition (95% CI: 16.74-20.00, p < 0.001).	Compared to controls without either condition, college students with self-reported diagnoses of comorbid AN/BN + ADHD exhibited elevated ED symptomology, including dieting (aOR = 1.19, 95% CI: 1.03-1.38, p = 0.003), vomiting or taking laxatives (aOR = 9.84, 95% CI: 8.16-

11.87, $p < 0.001$), and taking diet pills to lose weight (aOR = 7.20, 95% CI: 5.93-8.76, $p < 0.001$).

College students with self-reported diagnoses of comorbid AN/BN + ADHD were less likely to view themselves as overweight (aOR = 0.58, 95% CI: 0.50-0.67, $p < 0.001$) compared to controls without either condition.

Compared to college students with only self-reported diagnoses of AN or BN, those with self-reported diagnoses of comorbid AN/BN + ADHD were more likely to report being in treatment for their self-reported ED (aOR = 1.30, 95%

CI: 1.06-1.50, $p < 0.001$), dieting to lose weight (aOR = 1.27, 95% CI: 1.12- 1.43, $p < 0.001$) and reported a higher BMI (M = 24.91, SD = 0.18, $p = 0.010$).

College students with self-reported diagnoses of comorbid AN/BN + ADHD were less likely to use diet pills (aOR = 0.49, 95% CI: 0.42, 0.58, $p < 0.001$) compared to those with self-reported diagnoses of AN or BN alone

AN-R/S: Anorexia Restrictive Subtype; EDNOS: Eating Disorder not otherwise specified; BN: Bulimia Nervosa; AN-BP: Anorexia Nervosa Binge Purge subtype; DSM: Diagnostic Statistic Manual; ADHD: Attention Deficit Hyperactive Disorder; PD: Purging Disorder; SCID-I/P: Structured Clinical Interview for DSM-IV Axis I Disorders- Patient Edition; K-SADS-PL: Schedule for Affective Disorders and Schizophrenia for school-age children- present and lifetime version; BE: Binge Eating; ED: Eating Disorders; MINI-KID: Mini Neuropsychiatric Interview for Children and Adolescents; DNPR: Danish National Patient Register; ASD: Autism Spectrum Disorder; ID: Intellectual Disability; LOC-E: Loss of Control-Eating; DAWBA: Development and Wellbeing Assessment; HI-RA-NPS: Health Insurance Review and Assessment Service- National Patient Sample; HIRA: Health Insurance Review and Assessment Service; K-SADS-PL: Kiddle Schedule for Affective Disorders and Schizophrenia; IRCAP: Iranian Children and Adolescents' Psychiatric disorders; ACHA NHCA: American College Health Association National

College Health Assessment; AN-A: Anorexia Nervosa Atypical subtype; MPH: Methylphenidate; N/R: Not reported; NDD: Neurodevelopmental disorder; FED: Feeding and Eating Disorder; SE: Standard Error.

Table 1.4. Study and demographic information for clinical presentation and treatment studies

Citation	Country (or continent reported)	No. of participants	ED diagnosis	How ED and ADHD diagnosed	Setting	Demographic information (Age; Sex; Ethnicity)
Amrtavarshini et al. (2021)	Not reported	1	AN-B/P	AN: B/P purging DSM5. ADHD: MINI-KID	N/R	15 M N/R
Bejerot et al. (2019)	Sweden, migrated from South America aged 10	1	OSFED- Atypical AN	N/R	N/R	17 F N/R
Benard et al. (2016)	N/R	1	AN-A	ADHD: DSM-IV criteria	N/R	16 M Caucasian
Bhat et al. (2023)	N/R	1	BN	ADHD: diagnosis made by team consisting of a paediatrician, psychiatrist and counsellor	Outpatient department	25 F N/R
Bourgou et al. (2019)	N/R	1	Pica	Pica and ADHD: DSM-5	Outpatient department	12 M N/R
Bresnahan et al. (2016)	N/R	1	OSFED	N/R	Paediatric psychiatric hospital	12 F N/R

Gunes et al. (2016)	N/R	1	PICA	Pica and ADHD: DSM-IV criteria	Outpatient clinic	6 F N/R
Ioannidis et al. (2014)	N/R	1	BN	ADHD-C/S: DIVA which included getting collateral information from her mother and obtaining school reports.	Inpatient unit	23 F N/R
Keshen and Ivanova (2013)	N/R	3	All cases: BN	N/R	Case 1: ED outpatient clinic; Case 2: inpatient ED treatment and ED outpatient clinic; Case 3: Outpatient ED and inpatient ED	Case 1: 20 F N/R; Case 2: 23 F N/R; Case 3: 22 F N/R
Mestermann et al. (2023)	Germany	1	AN	AN: diagnosed according to ICD-10 criteria. ADHD-C/S	Adolescent Mental health department at university	10 F N/R
Pennell et al. (2016)	N/R	2	Both cases: ARFID	N/R	Case 1 and 2: Presented to hospital due to low body weight due to food avoidance,	Case 1: 10 M N/R; Case 2: 9 F N/R

					following initiation of stimulant medication for ADHD	
Prucoli et al. (2023)	Italy	1	BED	ED: DSM-5 and NDD: diagnosis documented by thorough clinical documentation.	Regional centre for FED	11 M N/R
Shear et al. (2021)	N/R	2	All cases: AN- R/S	AN: DSM-5 criteria; ADHD: DSM- 5 diagnosis	Inpatient medical hospital	Case 1: 19 F Hispanic; Case 2: 20 F White

Table 1.5. Data extraction for clinical presentation and treatment studies

Citation	ED diagnosis	Symptoms of ED ⁴	Symptoms of ADHD	Condition primarily being treated ⁵	Treatment given	Effects of treatment	Treatment considerations/ adaptations for comorbidity
Amrtavarshini et al. (2021)	AN-B/P	Consumes progressively larger quantities of food, consume 2-3 litres of water to vomit, forceful bowel movements, BMI 13, sunken eyes and hollow cheeks.	Hyperactive and impulsive	ADHD (Parent Management Training) AN	Individual sessions with adolescent (20 sessions by psychology and psychiatry), sessions with caregivers following Parent Management Training(15 sessions by social work team), Joint sessions (10 sessions, social work and psychiatry team). Behavioural techniques. Multiple sessions to reorient the family to understand the adolescent's needs.	Reduced aggression and retained small quantities of food.	N/R

⁴ Symptoms have been reported in line with authors reporting in included studies or diagnostic criteria. Authors of this review acknowledge symptoms may be attributed to multiple conditions

⁵ Condition being reported is stated if explicit in the included studies

Bejerot et al. (2019)	OSFED-Atypical AN	Amenorrhea, weight loss of 15kg	Hyperactivity, poor concentration, slight social deficits	N/A	N/R	N/R	N/R
Benard et al. (2016)	AN-A	Body image impairment that affected eating behaviour, controlling caloric intake daily, fear of gaining weight and becoming fat. Patient reported an obsession of gaining weight. Carefully controlled diet and physically overactive.	N/R	ADHD	20mg MPH/day was readministered to decrease ADHD symptoms	BMI remaining stable at 20kg per m ² . Body image dissatisfaction and low self-esteem have persisted.	MPH known to decrease appetite and induce weight loss. Adverse withdrawal effects of MPH so advise prolonged medical supervision
Bhat et al. (2023)	BN	Binge eating with excessive exercise to compensate for eating, mainly binging on junk food with	Absent-minded and distracted during class, lack of concentration impacting academic	First episode: ADHD Second episode: N/R	First episode: MPH 10mg/day. Second episode: bupropion sustained release tablets and restarted on MPH. Dosage of Escitalopram 5mg	Episode 1: ADHD symptoms improved significantly Episode 2: ADHD symptoms did not improve. Sustained	N/R

		<p>episodes lasting 45 minutes- 1 hour consuming 7000-8000 kilocalories per binge. Intense fear of gaining weight and preoccupied with thoughts of weight loss. She does not experience emesis, diuresis or diarrhoea. Patient is amenorrhoeic and has not had her menstrual cycles for 6 months.</p>	<p>performance, fidgety, difficulty staying still</p>		<p>and increased to 10mg. Third episode: MPH replaced with lisdexamfetamine. CBT has been started for habit reversal. Restarted on Escitalopram 10mg</p>	<p>hyperactivity symptoms Episode 3: Hyperactivity symptoms had a better response after 4 months of Lisdexamfetamine. Bulimia symptoms had a good response to Escitalopram.</p>	
Bourgou et al. (2019)	Pica	<p>Eating clothes for more 6 years+. Eating plastic of headphones and mouse</p>	<p>Inattention, impulsivity and hyperactivity.</p>	N/R	<p>MPH 40mg/day</p>	<p>ADHD and Pica symptoms improved within 3 weeks</p>	N/R

		wires, then collars, plastic caps and fingers' skin. Habit as involuntary when he is distracted.					
Bresnahan et al. (2016)	OSFED	Self-restriction of caloric intake and self-induced vomiting	Decreased concentration	N/A	N/R	N/R	N/R
Gunes et al. (2016)	Pica	Eating substances that have no nutritive value like hair, fibre, slime, play dough, toothpaste, ice, paper, wood and glue since toddlerhood	Inattentive at school and not interested in doing her homework. Easily distracted in class, unable to finish tasks.	N/R	10mg MPH twice a day	ADHD behaviours and Pica symptoms were improved and she was functioning well during the following year. CGI-I was 2 (much improved)	N/R
Ioannidis et al. (2014)	BN	Binge eating 3-4x a day. Each binge lasting 1.5hours and consumed around	N/R	CBT for BN ADHD	18mg extended release MPH was added to existing Sertraline. Clinicians informed her about possibility of reduced seizure	Less hyperactivity, reduced restlessness, better concentration levels, less distractibility, increased ability	Lack of robust guidance and need for caution on stimulant use in eating disorder population

		10,000kcal. Self-induced vomiting. To fund her binges, engaged in acts that compromised her safety. A fear of fatness, Russell's sign, parotid hypertrophy (swelling of gland), blood in the vomit due to pharyngeal tears. BMI: 20kg/m ² . Negative self-image, perfectionism.			threshold, increased suicidal ideation, appetite suppression and weight loss. CBT for BN and she engaged in the ward's therapeutic program including: recovery, body image and managing exercise groups.	for planning and better impulse control. Better ability to control her bingeing episodes. Urge to binge was reduced, binges were shortened in duration and less in total caloric intake. Patient reported being able to arrest a binge episode in mid course and moderate appetite suppression. EQE-Q score: dropping from 5.6 out of 6 on admission to 2.14 out of 6 on discharge	
Keshen and Ivanova (2013)	All cases: BN	Case 1: 16 Binge purge episodes per month; Case 2: 20 B/P episodes per month. Binges and purges last for 10 hours	Case 1: Difficulty sustaining focus and alertness in groups; Case 2: Needing to be busy or occupied with	N/R	Case 1: Adderall 40mg/day; Case 2: Adderall 40mg/day; Case 3: Adderall 20mg/day.	Case 1:Reported improvement in focus and concentration, decrease in bingeing and purging; Binge purge episodes per month down to 2.	Consider the impact of medication on eating

		and cost several hundred dollars. Binges and purges were sometimes driven by need for external stimulation. Case 3:20 binge purge episodes per month	external stimuli, poor impulse control; Case 3: Persistent feeling of restlessness, high energy			Case 2: Improvement in ADHD symptoms and full remission of bingeing and purging after Adderall. Concerns her eating was too restrictive after medication. Her weight dropped and was the only patient to lose weight. Improvement in focus. Binge surge episodes per month down to 1 Case 3: Within several days, an improvement in focus and urge to binge and purge had decreased. 1 Binge purge episode per month	
Mestermann et al. (2023)	AN	Underweight, 7kg AN-induced weight loss, restrictive	Motor hyperactivity and impulsivity, including in	AN	AN specific CBT with 3 main meals and 2-3 snack meals per day in an inpatient setting.	Gained weight up to her target weight and increased flexibility of her	Appetite suppressing and weight-reducing adverse side effects of

<p>eating, 27kg, cognitions to be as thin as possible, fear of weight gain, calorie counting and body image disturbance, mental occupation with food and weight. Excessive physical activity including up to 2 hour per day. Puberty development was delayed, no menarche had occurred yet. Somatic effects of undernutrition like xerosis cutis, brittle hair/nails and constipation.</p>	<p>her eating behaviour. Spilled parts of her food on herself and floor because of her motoric hyperactivity and higher talkativeness. Constant attention difficulties. Distractible and unable to pursue executive tasks. Increasingly unable to sit and stand still, stood up during lessons and moved around the classroom leading to low performance at school (authors distinguish this from urge</p>	<p>Body weight was measured every morning, 3x per week during later treatment stages. Addressed eating behaviour. Portion sizes were adapted weekly. Nasogastric tube was required for 3 weeks due to rejection of food and drink. AN-specific psychotherapeutic sessions in individual and group settings several times per week, comprising of psychoeducation and cognitive restructuring. Caregiver received AN-specific family interventions.</p> <p>Methylphenidate</p>	<p>eating structure. Mood and anxiety symptoms subsided. She became more open and built up social contacts with peers and adults under constant weight gain.</p> <p>Methylphenidate was begun. Eating behaviour became more adequate. Reduced ADHD symptoms were still present at discharge.</p>	<p>stimulant medication should be considered. MPH may be administered despite the risks, under carefully monitoring.</p> <p>Upon reaching normal weight, there was re-appearance of ADHD symptoms. Authors suggest pre-existing deficits in attention and self-control were reduced due to being underweight.</p>
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			to move to lose weight typical in AN)				
Pennell et al. (2016)	Both cases: ARFID	Case 1: History of selective and avoidant eating since early childhood. Avoidant of many foods at home and oppositional behaviour towards his mother at mealtimes. Became full quickly and felt bored by his mother's food choices. Weighed 33.3kg (BMI 17.2), 83% of ideal body weight. Case 2: Symptoms of cachexia, weighted	Case 1: Impulsivity at school. Case 2: sleep difficulties	Case 1: ARFID Case 2: ARFID	Case 1: Admitted to an ED inpatient unit for urgent weight restoration. Goals were nutritional rehabilitation and weight restoration. Lisdexamfetamine was decreased to 30mg to diminish the appetite suppressant effect. Began 0.25mg of Risperidone which was titrated up to 0.5mg - added to restore appetite, target anxiety, sleep and attention. Outpatient treatment: Following discharge, patient returned to the outpatient program for biweekly follow up. Risperidone was increased to 1.0mg 2 months following	Case 1: During 3 weeks admission, able to restore 5.4kg to a discharge weight of 38.7kg (97% of his ideal body weight) from 33.3kg. Outpatient treatment: Over 8 months, patient's weight further increased. Family reported decreased avoidance, increased variety of foods eaten and signification reduction in oppositional behaviour. Case 2: After 1 month hospital admission, weight restoration of 4.3kg to discharge weight of 24.4kg (90% ideal body weight) from	Lisdexamfetamine was decreased to diminish the appetite suppressant effect, so consider impact of medication on appetite. Risperidone added to restore appetite.

20.1kg (BMI 11.4), less than 80% of her ideal body weight. Stunted weight and height. Increasingly oppositional towards eating. Had persistently experienced eating difficulties since infancy, had a small appetite and would become distracted and bored during meals. No history of difficulty swallowing, fear of choking or vomiting. Following an allergic reaction to cashew flour

discharge due to impulsivity. Patient and mother attended outpatient therapy to develop skills around eating including distress tolerance. Mother coached on how to support and motivate young person. Case 2: Remained on 30mg lisdexamfetamine and 0.25mg Risperidone was added to restore her appetite and improve her concentration and anxiety. Risperidone was titrated up to 0.5mg. Outpatient: Guanfacine 2.0mg for ADHD symptoms. Risperidone was increased a month post-discharge, because of

20.1kg. After 10 weeks of outpatient therapy, the patient was fully weight restored. Improvements reported in appetite, decreased avoidance, and increased variety of foods. Decreased oppositional behaviour and anxiety surrounding mealtime.

		in pasta, became more fearful of an allergic reaction. No bingeing, purging or body image disturbances			combative and oppositional behaviour. Patient and her parents attended outpatient therapy biweekly to develop skills around eating including distress tolerance and emotion regulation. Completed thought records, feeling chart to lend insight to her thoughts and behaviour. Developing positive motivations for nutrition completion.		
Prucoli et al. (2023)	BED	Hyperphagia with compulsivity (altered sense of satiety and snack hiding). Bingeing to the point of spontaneous vomiting. Continuous thoughts about	Distractibility and difficulties at school.	N/R	He started psychotherapeutic intervention	N/R	N/R

		food throughout the day. Emotional dysregulation and impaired reward mechanisms.					
Shear et al. (2021)	All cases: AN- R/S	Case 1: Significant weight loss, amenorrhea, orthostatic hypotension, caloric restriction, compulsive running lasting up to 2 hours per day, consuming an estimated 500kcal per day, feeling overweight despite low weight and restrictive eating, preoccupations with size of her stomach,	Case 1: Inattention including poor focus, distractibility- difficulties concentrating, hyperactivity and impulsivity, difficulty completing assignments and acting out in class. Case 2: Poor concentration, forgetfulness, difficulty completing tasks and distractibility.	Case 1: AN- R/S Case 2: AN- R/S	Case 1: Behaviour focused treatment for her eating disorder - structured therapeutic program which emphasised adequate caloric intake and avoidance of purging behaviours. Supervised planned meals with staff. Individual and group therapy treatment of focusing on correcting disordered eating and decreasing her excessive focus on weight and shape. Patient started on a 1800Kcal which was increased by	Case 1: Difficulties following the group schedule, knowing the topic and remembering to do any homework assigned during groups. She ate planned meals supervised by unit staff. Patient tolerated the medication well, denied any change in appetite and continued to complete all her meals. She did not engage in purging behaviours. Weight increased by 2.6kg by	N/R

legs and arms, complained of fullness after meals, induced vomiting, use of laxative medication;
Case 2:
Orthostatic hypotension, bradycardia, dehydration, hypotension.
Over-exercising and restricting calories and has lost 5kg.
Limited calories to 500 kcal per day.
Significant body shape and weight concerns.

400kcal every 48 hours until 3000 per day. To treat ADHD, 10mg daily of dextroamphetamine/amphetamine (Adderall) which was increased to 20mg 2 days later.
Case 2: Fluoxetine continued. Re-feeding and therapy protocol and received a daily diet of 1800 kcal with 400 kcal increases every 48 hours until 3000 Kcal daily.
Restarted on 54mg of MPH daily to treat her ADHD symptoms.

discharge after 11kg to 53.1kg. Needed less direction for the group schedule and reported greater ability to focus and participate in therapy sessions.
Case 2:
Participated well in AN behavioural program.
Completed all meals starting on the third day of hospitalisation and continued to do so for the remainder of her stay. By day 5, her weight had increased by 1.4kg to 45.2kg.
Disorganisation that interfered with her ability to participate in therapeutic groups and complete homework. Patient gained 2.8kg and

was discharged at 46.81kg. After starting MPH, no changes in appetite or satiety and improvement in concentration reported.

MPH: Methylphenidate; N/R: Not reported; ADHD: Attention Deficit Hyperactive Disorder; AN: Anorexia Nervosa; BN: Bulimia Nervosa

Narrative synthesis

Research Questions 1: What is the prevalence of ADHD in those with eating disorder? What is the prevalence of eating disorders in those with ADHD?

Prevalence rate of co-morbid ADHD in young people with an eating disorder ranged from 0.01 to 0.52 (Guerdjikova et al., 2019; Wentz et al., 2019). Prevalence rates of co-morbid eating disorders in young people with ADHD ranged from 0.08 to 0.37 (Park et al., 2017; Seo et al., 2022). In a general population, prevalence rates of co-morbid ADHD and eating disorders ranged from 0.0003 to 0.01 (Mohammadi et al., 2020; Schiros & Antshel, 2023).

The odds of an eating disorder in those with ADHD, compared to those without ADHD, ranged from 11.17 (95% CI: 9.82-12.71) to 18.30 (95% CI: 16.74-20.00) (Park et al., 2017; Schiros & Antshel, 2023). The odds of ADHD in those with an eating disorder, compared to those without an eating disorder, ranged from 1.74 (95% CI: 1.33-2.26) to 3.47 (2.28-5.31); $p < 0.001$ (Convertino & Blashill, 2022; Shan et al., 2021).

Research Questions 2: How do eating disorders present in children, adolescents and young people with co-morbid ADHD? Are there any distinct differences from non-comorbid presentations?

The authors of included case reports reported on symptoms of eating disorders and symptoms of ADHD. The symptoms of eating disorders and ADHD described were consistent with both ADHD and eating disorder diagnostic criteria.

The authors rarely commented on whether they believed symptoms occurred because of the comorbidity or were worsened because of the comorbidity. It is difficult to attribute

symptoms to any one condition; in table 1.5 some symptoms were attributed to ADHD and are consistent with features seen in patients with eating disorders such as difficulties with concentration. Authors did not report higher levels of risk due to the comorbid condition or that either disorder was harder to treat due to the co-morbidity.

Nevertheless, some interactions of key symptoms were reported; and are discussed further in the treatment section below. A theme of impulsivity and need for additional stimuli impacting eating behaviour emerged. This included motor hyperactivity leading to food spilling and binges and purges being driven by external stimulation (Keshen & Ivanova, 2013; Mestermann et al., 2023).

A theme emerged of patients with co-morbid eating disorders and ADHD being distracted and the impact on eating behaviours. In patients with ARFID this included being distracted at mealtimes and bored with meal choices (Pennell et al., 2016). Similarly, in a patient with Pica when distracted they would eat non-nutritional foods (Bourgou et al., 2021). The authors do not hypothesise whether any of the eating difficulties were made worse by their co-morbid ADHD.

Research Question 3: What treatments or key considerations have been used for treating children, adolescents or young people with eating disorders and co-morbid ADHD? How effective have these treatments been?

Pharmacological treatments

Several included studies used pharmacological treatments to treat the symptoms of ADHD in patients with co-morbid eating disorders and considered the impact of ADHD medication on appetite. Pennell and colleagues explained the Lisdexamfetamine (a stimulant typically used to treat ADHD) dosage given was reduced to diminish the appetite suppressant of the

medication when supporting someone with ARFID and co-morbid ADHD (Pennell et al., 2016). They also added Risperidone, an atypical antipsychotic, to restore the appetite of a patient (Pennell et al., 2016). Keshen and colleagues also raise the importance of considering the impact of ADHD medication on eating (Keshen & Ivanova, 2013).

Shear and colleagues reported increased focus and ability to participate in psychological therapy following methylphenidate (a stimulant typically used to treat ADHD) (Shear et al., 2021). This further illustrates the use of ADHD medication in those with comorbid eating disorders and ADHD, both for improvement of ADHD symptoms and possibly to support psychological treatments.

Psychological treatments

CBT was used to treat co-morbid eating disorder and ADHD in several case studies (Bhat et al., 2023; Ioannidis et al., 2014; Mestermann et al., 2023). Other psychological interventions included behavioural therapy or involved behavioural techniques targeting Anorexia symptoms (Amrtavarshini et al., 2021; Shear et al., 2021). Additional co-morbid diagnoses and symptoms such as depression and anxiety and previous treatments that had been given to patients are presented in appendix 1.5.

Regarding key considerations for psychological treatments, patients' concentration, seen in ADHD and in those with low weight, may impair engagement and impact effectiveness of psychological treatments. Shear and colleagues explain prior to methylphenidate, a patient's ADHD symptoms particularly concentration meant they were struggling to follow the group schedule in psychological therapy, know the topic of sessions or remember the assigned homework (Shear et al., 2021). In another case, a patients' disorganisation interfered with their ability to participate in psychological groups and

complete homework (Shear et al., 2021). The authors did not suggest any adaptations to psychological interventions to overcome difficulties with engagement, but as mentioned above pharmacological interventions did reduce ADHD symptoms and help with this. Another treatment consideration emerged because after weight restoration, a patient's ADHD symptoms re-appeared (Mestermann et al., 2023). The authors suggest pre-existing difficulties in attention and self-control were reduced while they were underweight. Therefore, when delivering treatment involving weight restoration, consider the impact on ADHD symptoms, when treating those with eating disorders and co-morbid ADHD.

Quality appraisal

Table 1.6 provides the quality appraisal ratings of studies. The questions (Q1-Q5) in the checklist for quantitative non-randomised studies, quantitative descriptive studies, qualitative studies and mixed methods studies are taken from the MMAT tool (Pluye & Hong, 2014).

Research Question 1: Prevalence studies

Of the twelve prevalence studies, one study had one of the relevant criteria present (Wentz et al., 2019), two studies had two of the relevant criteria present (Norris et al., 2021; Ruiz-Ramos et al., 2021), three studies had three of the relevant criteria present (Akgül et al., 2016; Schiros & Antshel, 2023; Seo et al., 2022), four studies had four of the relevant criteria present (Convertino & Blashill, 2022; Guerdjikova et al., 2019; Halevy-Yosef et al., 2019; Shan et al., 2021). Two prevalence studies had all five criteria present (Mohammadi et al., 2020; Park et al., 2017).

Quantitative descriptive studies

A strength of the quantitative descriptive studies investigating prevalence was all studies had an appropriate sampling strategy based on the research question (Akgül et al., 2016; Convertino & Blashill, 2022; Guerdjikova et al., 2019; Mohammadi et al., 2020; Norris et al., 2021). Another strength was the measurements were appropriate in all studies except one where it was not clear how the ARFID diagnosis was given (Norris et al., 2021). A weakness of the quantitative descriptive prevalence studies were that in less than 50% of studies indicated that the sample was representative of the total population (Convertino & Blashill, 2022; Mohammadi et al., 2020).

Quantitative non-randomised

A strength of the quantitative non-randomised prevalence studies was that exposure occurred as expected in all studies, meaning the diagnosis was made appropriately (Halevy-Yosef et al., 2019; Park et al., 2017; Ruiz-Ramos et al., 2021; Schiros & Antshel, 2023; Seo et al., 2022; Shan et al., 2021; Wentz et al., 2019). The measurements were appropriate in five (71%) papers with the exception of a study that asked participants to self-report if they had received a diagnosis of ADHD and another where Loss of Control Eating was measured using a questionnaire only (Schiros & Antshel, 2023; Wentz et al., 2019). A weakness of quantitative non-randomised studies was only four (57%) of studies included a clear description that the sample was representative of the target population (Park et al., 2017; Schiros & Antshel, 2023; Seo et al., 2022; Shan et al., 2021).

Research Questions 2 and 3: Treatment studies

Of the thirteen treatment studies, two studies had only two of the relevant criteria present (Bejerot et al., 2019; Ioannidis et al., 2014), five studies had three of the relevant criteria present (Benard et al., 2015; Gunes et al., 2016; Keshen & Ivanova, 2013; Pennell et al., 2016; Pruccoli et al., 2023). Only one study had four of the relevant criteria present (Shear et al., 2021). Five studies had all five criteria present (Amrtavarshini et al., 2021; Bhat et al., 2023; Bourgou et al., 2021; Bresnahan et al., 2016; Mestermann et al., 2023),

Quantitative descriptive studies

A strength of the quantitative descriptive studies investigating treatment was all studies had an appropriate sampling strategy based on the research question and had low risk of nonresponse bias (Benard et al., 2015; Pennell et al., 2016; Pruccoli et al., 2023; Shear et al., 2021). In all studies, the statistical analysis used was either not appropriate, not applicable or it was not possible to tell.

Qualitative case studies

In all the qualitative studies, the qualitative approach was appropriate to answer the research questions and the data collection methods were also adequate (Amrtavarshini et al., 2021; Bejerot et al., 2019; Bhat et al., 2023; Bourgou et al., 2021; Bresnahan et al., 2016; Gunes et al., 2016; Mestermann et al., 2023). A weakness of the qualitative studies was in only five (71%) of studies was the interpretations of results substantiated by the data. Two studies did not make an interpretation of their results (Bejerot et al., 2019; Gunes et al., 2016). For a

similar reason there was no coherence between data sources, collection, analysis and interpretation for two studies (Bejerot et al., 2019; Gunes et al., 2016).

Mixed methods studies and Quantitative non-randomised

There was one quantitative mixed methods treatment study and one quantitative non-randomised treatment study (Ioannidis et al., 2014; Keshen & Ivanova, 2013).

Table 1.6. Quality appraisal ratings

<i>Prevalence studies</i>							
Study	Category of study design	Q1 Sampling strategy	Q2 Representative Sample	Q3 Appropriate Measurements	Q4 Risk of nonresponse bias	Q5 Statistical analysis appropriate	Total (/5)
Akgul et al. (2016)	Quantitative descriptive study	Y	C/T	Y	N	Y	3
Convertino and Blashill (2022)	Quantitative descriptive study	Y	Y	Y	N	Y	4
Guerdjikova et al. (2019)	Quantitative descriptive study	Y	C/T	Y	Y	Y	4
Mohammadi et al (2020)	Quantitative descriptive study	Y	Y	Y	Y	Y	5
Norris et al. (2021)	Quantitative descriptive study	Y	C/T	N	C/T	Y	2
% yes		100	40	60	40	100	
Study	Category of study design	Q1 Representative Sample	Q2 Appropriate measurements	Q3 Complete outcome data	Q4 Confounders accounted for	Q5 Exposure occur as intended	

Halevy-Yosef et al (2019)	Quantitative non-randomised study	C/T	Y	Y	Y	Y	4
Park et al. (2017)	Quantitative non-randomised study	Y	Y	Y	Y	Y	5
Ruiz-Ramos et al. (2020)	Quantitative non-randomised study	C/T	Y	C/T	N	Y	2
Schiors and Amstel (2022)	Quantitative non-randomised study	Y	N	C/T	Y	Y	3
Seo et al. (2022)	Quantitative non-randomised study	Y	Y	C/T	N	Y	3
Shan et al. (2021)	Quantitative non-randomised study	Y	Y	C/T	Y	Y	4
Wentz et al. (2019)	Quantitative non-randomised study	C/T	N	C/T	N	Y	1
% yes		57	71	29	57	100	

Treatment studies

Study	Category of study design	Q1 Sampling strategy	Q2 Representative Sample	Q3 Appropriate Measurements	Q4 Risk of nonresponse bias	Q5 Statistical analysis appropriate	Total (/5)
Benard et al. (2015)	Quantitative descriptive study	Y	N	Y	Y	C/T	3
Pennell et al. (2016)	Quantitative descriptive study	Y	N	Y	Y	C/T	3
Pruccoli et al (2023)	Quantitative descriptive study	Y	N	Y	Y	N/A	3

Shear et al. (2021)	Quantitative descriptive study	Y	Y	Y	Y	N	4
% yes		100	25	100	100	0	
Study	Category of study design	Q1 Representative Sample	Q2 Appropriate measurements	Q3 Complete outcome data	Q4 Confounders accounted for	Q5 Exposure occur as intended	
Keshen and Ivanova (2013)	Quantitative non-randomised study	N	Y	Y	N	Y	3
Study	Category of study design	Q1 Qualitative approach appropriate	Q2 Data collection methods adequate	Q3 Findings derived from data	Q4 Interpretations substantiated by data	Q5 Coherence between data sources, collection, analysis and interpretation	
Amrtavarshini et al. (2021)	Qualitative study	Y	Y	Y	Y	Y	5
Bejerot et al. (2019)	Qualitative study	Y	C/T	Y	C/T	N	2
Bhat et al. (2023)	Qualitative study	Y	Y	Y	Y	Y	5
Bourgou et al. (2019)	Qualitative study	Y	Y	Y	Y	Y	5
Bresnahan et al. (2016)	Qualitative study	Y	Y	Y	Y	Y	5
Gunes et al. (2016)	Qualitative study	Y	Y	Y	C/T	C/T	3
Mestermann et al. (2023)	Qualitative study	Y	Y	Y	Y	Y	5
% yes		100	86	100	71	71	

Study	Category of study design	Q1 Rationale for mixed methods design	Q2 Integration of components of study	Q3 Adequate interpretation	Q4 Divergences and inconsistencies addressed	Q5 Different components adhere to quality criteria of each method		
Ioannidis et al. (2014)	Mixed methods study	N	Y	N	Y	1.1 Y	4.1 Y	2
						1.2 Y	4.2 N	
						1.3 Y	4.3 Y	
						1.4 Y	4.4 Y	
						1.5 N	4.5 N/A	

Y: yes; C/T: Can't tell; N/A: not applicable; N: no.

Discussion

Summary of findings

There was greater prevalence of an eating disorder in those with ADHD, and a greater prevalence of ADHD in those with an eating disorder, compared to those without the co-morbid condition. In general population studies the prevalence of both conditions occurring was less than 1 in 100 (Mohammadi et al., 2020; Schiros & Antshel, 2023).

Medication was commonly used. Psychological interventions included CBT and behavioural therapy. Themes that emerged were impulsivity and seeking-stimuli impacting eating behaviour and distractibility impacting eating behaviour. Importantly, symptom interactions had implications for treatment adaptations. Authors monitored the impact of medication for ADHD on appetite suppression and satiety to ensure it did not reduce these adversely. Others found difficulties concentrating impaired a patient's ability to participate in psychological treatment for their eating disorder and medication resolved this.

Findings in light of quality appraisal

Given most studies used appropriate measures to diagnose eating disorders and ADHD, the findings showing increased prevalence of ADHD in eating disorder populations and increased prevalence of ED in ADHD populations, are likely reliable. However, as only 57% of studies demonstrated the sample was representative it is unclear how generalisable these findings are.

A range of different study designs were used to calculate prevalence. Longitudinal study designs of participants recruited from samples reflecting the general population are

likely to be more generalisable, compared to estimates from samples that are not representative of the population (St Sauver et al., 2012). However, few studies utilised this design likely due to the time taken and cost to carry out. Cross-sectional designs allow results to be obtained faster, with less drop out and are less expensive (Capili, 2021). However, cross sectional designs do not allow for an understanding of which disorder came first, an important question when trying to learn more about comorbidities (Capili, 2021).

Limited interpretations were made in the treatment papers, suggesting interactions between ED and ADHD symptoms remains unclear. While previous literature on treatment have shown co-morbid ADHD was associated with inferior treatment outcome in severe eating disorders (Testa et al., 2020), limited interpretations were made in included studies that non-improvement was linked to co-morbidities. Behavioural commonalities of eating disorders and ADHD include impulsivity. While clinical presentations often involved impulsivity, authors rarely commented on whether impulsivity was worsened by the co-morbidity.

Clinical implications

Given the increased prevalence of ADHD in those with eating disorders, eating disorder services may benefit from ADHD screening in those with difficulties with impulsivity or inattention; similar to screening suggested for other neurodevelopmental conditions such as ASC (Adamson et al., 2022). In those presenting with ADHD it may be beneficial to screen for impulsivity regarding food, especially given the implications associated with bingeing (Masheb & Grilo, 2004; Nitsch et al., 2021).

In one study, a patient with ADHD struggled to attend to psychological treatments for eating disorders including remembering session content or completing homework (Shear et al., 2021). Utilising therapy adaptations may help patients engage more successfully with psychological treatments for eating disorders; for example shorter sessions and more summaries. Similar adaptations have been suggested for children and adolescents who generally have less developed memory and attentional capacities than adults (Ramsay; Semple et al., 2010; Siegler, 1991). Developing adaptations alongside those with lived experience would be helpful.

Methylphenidate was commonly given as a treatment for patients with eating disorders and ADHD, monitoring the impact of pharmacological treatment on appetite seems an important clinical implication. The adverse impact of methylphenidate on appetite suppression and weight loss has been discussed in ADHD populations (Amine et al., 2022; Storebø et al., 2018). Treatment for eating disorders, particularly anorexia nervosa, often involves increasing calorie intake; increasing food consumption may prove more challenging if medication for ADHD is reducing appetite. Furthermore, medication reducing appetite may be seen as appealing to young people with an eating disorder so risks and motivations for taking medication should be explored (Gibbs et al., 2016). In contrast, as seen in one included study side effects of medication used to treat eating disorders, such as atypical antipsychotics, may increase appetite and lead to weight gain (Pennell et al., 2016).

Research implications

The review identified a need to investigate treatment effectiveness of psychological and pharmacological interventions in those with eating disorders and co-morbid ADHD. Future research aiming to investigate treatment effectiveness could use experimental designs

comparing a sample of participants with comorbid ED and ADHD to participants with ED only or ADHD only, which would allow interpretations to be made about the impact of comorbidity on presentation and treatment outcome.

Furthermore, few studies used outcome measures to measure symptom change and instead reported observed changes. Future studies could use outcome measures to measure symptoms of ED or ADHD pre and post intervention to reduce information bias or measurement error, occurring in some observational studies (Hammer et al., 2009). Given the potential adverse effects of medications, studies identifying and evaluating adaptations to psychological therapy, in a similar way to the research behind the PEACE pathway, may be of use.

Strengths and limitations

Strengths of this review are the quality appraisal ratings of the included studies and the inclusion criteria included studies with diagnoses of eating disorders and ADHD. Therefore, findings are drawn from clinical populations, increasing the external validity to clinical populations.

Nevertheless, the review should be considered in light of its limitations. While the included studies are useful, case studies have limitations including difficulties generalising findings, impossibility of establishing a cause-effect relationship and danger of over interpreting findings (Nissen & Wynn, 2014). The included studies often report a variety of treatment options, adding additional barriers when drawing conclusions about causality or effectiveness. Furthermore, as ASC and ADHD often co-occur, and the included studies did

not exclude participants with ASC, it is helpful to acknowledge the potential complexity when looking at co-morbid ADHD and eating disorders.

Conclusions

This review presented prevalence rates of co-morbid eating disorders and ADHD, symptoms and adaptations to treatment suggested in the literature. Reviewed studies suggest a range of psychological interventions including behaviour focused psychological therapy and CBT, and pharmacological treatments including methylphenidate and Lisdexamfetamine, have been used to treat those with co-morbid eating disorders and ADHD. Importantly, the impact of methylphenidate on appetite suppression needs to be monitored to prevent appetite suppression.. Further research is needed to facilitate better understanding of beneficial treatments for those with co-morbid eating disorders and ADHD; consultation with experts by experience may be helpful.

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Service Improvement Project

**The experience of veterans of the Global Majority seeking support via the OpCourage
Mental Health Veteran Service**

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OpCourage: The Veterans Mental Health and Wellbeing Service

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Abstract

Background

Veterans of the Global Majority (GM) face many barriers to seeking help, including stigma and institutional racism. OpCourage, a National Health Service veteran mental health service, identified difficulties with accessing feedback from GM veterans and wanted to better understand the needs of individuals from racialised backgrounds. The project aimed to determine the number of GM veterans supported by OpCourage and to learn about the experiences of GM veterans and staff.

Method

Routine data was analysed to investigate numbers of GM veterans seen by the service over a three-year period. Four interviews with GM veterans and a focus group of thirteen mental health professionals were conducted and analysed using inductive thematic analysis. Codes were reviewed by a second researcher.

Results

GM veterans made up 7% of referrals to the Treatment, Intervention and Liaison Service (TILS) and 12% of the onward TILS referrals to the Complex Treatment Service for

psychological therapy. Six themes emerged from GM veterans: racial trauma in the military, stigma, cultural differences, lack of knowledge of mental health services, effortful referral process and flexibility of treatment. Five themes emerged from a staff focus group: adaptations for therapists, cultural sensitivity, sharing knowledge, reaching out to communities and well-intentioned but hesitant staff.

Discussion

This work gave voice to marginalised veterans leading to recommendations including: staff directly addressing race with veterans in treatment and OpCourage networking with community groups. It is hoped increased awareness of racially traumatic experiences of GM veterans in the British military may lead to increased efforts to reduce racial trauma and offer equitable treatment and on a broader scale, reducing the stigma associated with mental health difficulties within the military may prove useful. It proved difficult to interview a larger sample of GM veterans despite extensive recruitment attempts, therefore, barriers to recruitment have also been considered.

Keywords: veterans, military, trauma, PTSD, post-traumatic stress disorder

The experience of veterans of the Global Majority seeking support via the OpCourage service

Summary of relevant literature

Veterans accessing mental health treatment

Military personnel may experience injury, mortality and the death of comrades (Lubens & Silver, 2019). The prevalence of post-traumatic stress disorder (PTSD), anxiety and depression is higher in veterans compared to the general population; 1 in 4 veterans who presented to care teams had mental health difficulties (Trivedi et al., 2015). There is some evidence of a higher prevalence of PTSD, and more severe symptoms, in veterans of the Global Majority⁶ (GM) compared to White veterans (Koenen et al., 2003; Tuerk et al., 2011). Despite this, more than half of veterans who meet mental illness criteria do not seek help (Lazar, 2014). A systematic review identified stigma as a barrier to seeking help in veterans, with concerns being treated differently and seen as weak (Sharp et al., 2015). The Ministry of Defence piloted dedicated veterans clinics which had greater engagement compared to generic National Health Service (NHS) mental health services; veterans expressed a

⁶ The term ‘Global Majority’ (GM) has been chosen for the current project and was coined to reject the debilitating implications of being racialised as ‘ethnic minorities.’ GM provides a more accurate descriptor as those from Black and Brown communities make up 85% of the global population

Campbell-Stephens, R. M. (2021). Introduction: Global Majority Decolonising Narratives. In R. M. Campbell-Stephens (Ed.), *Educational Leadership and the Global Majority: Decolonising Narratives* (pp. 1-21). Springer International Publishing. https://doi.org/10.1007/978-3-030-88282-2_1 .

preference for staff knowledgeable about the Forces (Dent-Brown, 2010). These veteran dedicated clinics offered psychological and social support.

Outcomes of interventions with veterans

Murphy et al. (2015) found a reduction in PTSD symptoms following treatment at a veteran specialist service. However, some research indicates that interventions for veterans with PTSD are less effective than for other populations (Bisson et al., 2007). Although the reasons for this are unclear, it may be because of the nature of military trauma, more co-morbidities and higher rates of substance misuse (Iversen et al., 2009).

Veterans of the Global Majority

Ten per cent (14,320) of personnel in the British Military self-identified as being from a GM background compared with 16.1% of the United Kingdom's (UK) working age population (Kirk-Wade & Mansfield, 2023). Approximately half (48%) of the GM UK Regular Forces personnel were Black. The second-largest GM group was Asian (27%), followed by Mixed (17%) and Other (8%) (Kirk-Wade & Mansfield).

Pearson and colleagues (2021) explored help seeking and treatment experiences of GM UK veterans from Commonwealth countries including St. Lucia, Gambia, Ghana, Fiji and South Africa. Key themes identified were: feeling treated differently, unheard when reaching out for help, systemic pressures such as financial difficulties and the importance of involving the wider community. Experiences of institutional racism in the NHS and the Armed Forces were additional barriers.

Adverse race-related stressors account for increased PTSD among GM veterans compared to white veterans, which persisted when controlling for combat exposure (Loo et

al., 2005). The Minority Stress model proposes mental health inequalities arise as a result of additional social stress because of stigmatised social status due to factors including ethnicity, sexual orientation or gender (Frost & Meyer, 2023). Experiences of racism lead to social and psychological alienation; particularly stressful for soldiers given social inclusion is crucial for survival (Loo et al., 2007). A systematic review also found greater experiences of trauma and racial discrimination for GM veterans (Salem et al., 2022).

Rationale for service improvement project

Stakeholder involvement

OpCourage is an NHS mental health specialist service providing support for veterans.

Consultation with a Clinical Psychologist at the service identified difficulties in accessing feedback from GM veterans, who were thought to be underrepresented in the service and in the Service User Forum; where service collaboration was sought. The service identified a need for a project focused on exploring the experience of GM veterans.

Service treatment pathway

Veterans receiving support at OpCourage have an initial assessment, which includes exploring military experiences, life stressors, goal-taking and a treatment plan. If appropriate, they are referred for support with housing, substance misuse, or psychology.

Prior to April 2023, the OpCourage service consisted of three teams. The Treatment Intervention Liaison Service (TILS) who conducted assessments and referred veterans to a

range of services. One of which was the Complex Treatment Service (CTS) who provided psychological support; other services included support for social issues.

Brief outline of aims and objectives

The project had several aims:

1. Determine the number of GM veterans supported at OpCourage between 2019 and 2022
2. Learn more about GM veterans' experiences of accessing and receiving support at OpCourage
3. Explore the experience of staff supporting veterans of the GM

The project hoped to provide recommendations based on feedback from veterans and staff about what the service was doing well and what could be done differently in order to improve the experience of GM veterans seeking support at OpCourage and increase access to the service.

Method

Participants

Inclusion criteria: Veterans

A veteran was defined as anyone who had served within the British Armed Forces for one day or more and has left service; this definition is used by OpCourage and the Office for Veterans' Affairs (Office for Veterans' Affairs, 2020). Veterans who self-identified as being

from a GM were eligible to participate providing they had, had an assessment at OpCourage. This included: Black, Asian, Mixed and Other ethnicities.

Inclusion criteria: Staff

Staff were eligible to participate if they were mental health professionals for OpCourage who had provided psychological assessments or interventions to GM veterans. Staff from all ethnic backgrounds were eligible.

Procedure

Peer support veterans (with experience providing practical support) employed by OpCourage, were consulted regarding the appropriateness of interview questions and the removal of jargon. GM veterans from the service were not included as experts by experience, as they would have been eligible to participate in the project; given the limited numbers of GM veterans it was unhelpful to reduce those eligible further.

Phase 1- numbers of GM veterans

Routinely collected demographic data including age, biological sex and ethnicity were analysed. Referrals between 2019 (when the database was set up) and 2022 (when the project commenced) were reviewed. A chi square analysis was used to compare 2.07%, the expected frequency from a veterans' census shown in table 2.1, to observed frequencies (Office for National Statistics, 2023b). A between groups t-test was used to investigate differences in age between White British veterans and GM veterans.

Table 2.1. The weighted percentages of veterans' ethnicities in the Veterans' census survey

Ethnicity	Weighted percentage in Veterans' Survey
------------------	--

Asian, Asian British or Asian Welsh	0.66
Black, Black British, Black Welsh, Caribbean or African	0.39
Mixed or multiple ethnic groups	0.71
White	97.92
Other ethnic group	0.32
Global Majority total (added all ethnicities except White)	2.07

Phase 2 - GM veterans' experiences

Interviews with GM veterans occurred between July and December 2023. Interviews were transcribed and inductive thematic analysis was conducted following these key six principles: becoming familiar with the data, generating initial codes which were reviewed by the internal supervisor; searching, reviewing themes and defining themes. Lastly, producing this report (Braun & Clarke, 2006).

Phase 3- Staff's experiences

Staff were presented with an information video of the project (see appendix 2.2 for transcript), with those opting in being invited to a focus group in June 2023. Again, inductive thematic analysis was conducted (Braun & Clarke, 2006). NVivo software was used to develop codes and themes by the researcher (RJ-BB). The internal supervisor (RV) reviewed the transcripts to ensure appropriate coding.

Position of the researchers

The main researcher and internal supervisor had some understanding of important factors, given close family members are veterans of the GM. RJ-BB is Black and RV is from a GM background. RV has personal connections with some veterans and a professional interest in this area. Clare Churchman, a Clinical Psychologist within OpCourage, provided useful insights based on professional experience.

Ethics

The project was approved by the Audit and Information Governance teams within Berkshire NHS trust (appendix 2.3). The Trust requested an information sheet and consent form were sent to all veterans in the service inviting GM veterans to opt in. Given difficulties in recruitment, a second round of recruitment utilised a recruitment poster to all veterans (Appendix 2.4). Veterans were given an information sheet informing them participation was voluntary and would not impact their treatment, and they had the right to withdraw up until a week after participation, at which point interviews were transcribed anonymously (Appendix 2.5). Consent forms were given to all staff and veterans (Appendix 2.6 and 2.7). The interview and focus groups are viewable in appendix 2.8.

Results

Phase 1- Quantitative analysis

Ethnicity

One hundred and thirty two GM veterans were referred to TILS between January 2019 and December 2022 out of 1793 total referrals (7%). Of the onward 373 referrals to CTS, 44 were GM veterans (12%). Table 2.2 illustrates the ethnicity of veterans. A chi square analysis demonstrated the observed frequencies of GM veterans were greater at TILS and CTS than

predicted frequencies [$\chi^2(1, N=1177)=482.9, p<0.001$; $\chi^2(1, N=289)=246.7, p<0.001$].

Additional quantitative analysis regarding biological sex and age can be seen in appendix 2.9.

Table 2.2. Table showing the number of GM veterans referred to TILS and CTS

Ethnicity	Number of veterans (%) (1dp)	
	<i>Treatment, Intervention, Liaison Service</i>	<i>Complex Treatment Service</i>
Total referrals	1793	373
Asian Indian	7 (0.4)	0
Asian Other	15 (0.8)	1 (0.3)
Black African	41(2.3)	18 (4.8)
Black Caribbean	22 (1.2)	9 (2.4)
Black Other	14 (0.8)	6 (1.6)
Mixed-White and Asian	1 (0.1)	0
Mixed- White and Black African	3 (0.2)	0
Mixed- White and Black Caribbean	6 (0.3)	0
Mixed Other	7 (0.4)	6 (1.6)
Other	14 (0.8)	4 (1.1)
Total GM veterans	132 (7.4)	44 (11.8)
White British	1028 (57.3)	239 (64.1)
White Irish	4 (0.2)	1 (0.3)
White Other	13 (0.7)	5 (1.3)
Not stated	616 (34.4)	84 (22.5)

Phase 2 - Qualitative analysis

Veterans

Four veterans took part in interviews about their experiences of accessing and receiving mental health support at OpCourage. Two veterans identified as Black Caribbean, one as Black African and one identified as Black although didn't specify their ethnicity further (Black non-specified). All four veterans identified as male.

Six themes and fourteen subthemes were identified from the interviews with veterans and are presented below in figure 2.1. Additional quotes for veterans can be found in appendix 2.10.

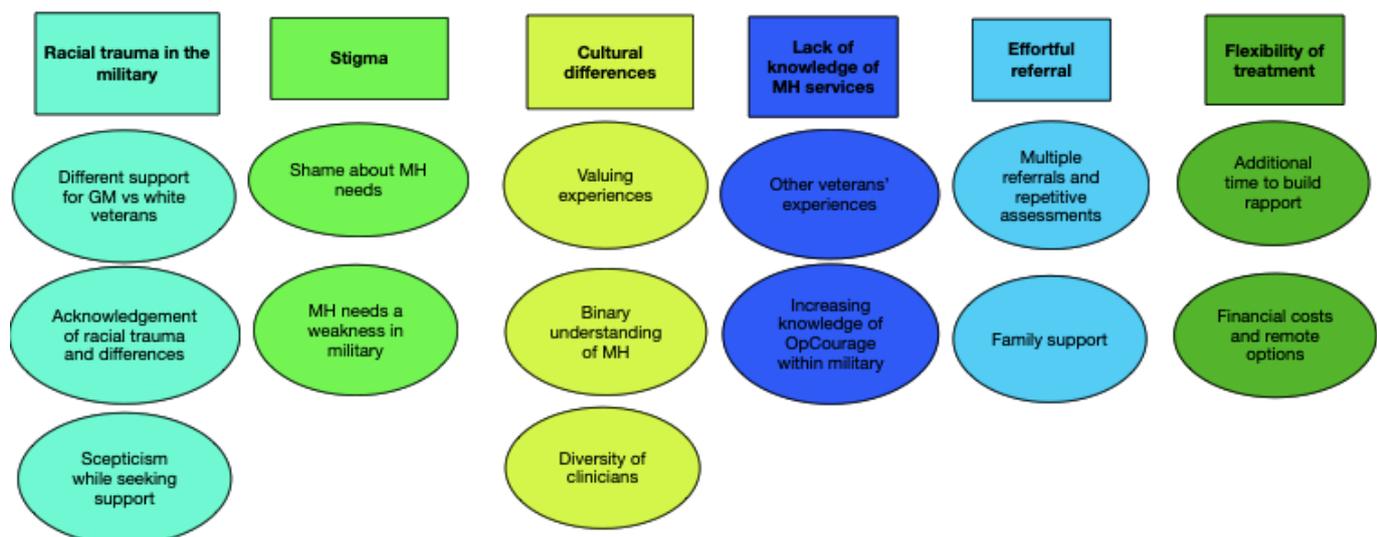


Figure 2.1. Illustration of themes and subthemes from interviews with GM veterans

Theme 1: Racial Trauma in Military

GM veterans spoke about receiving different support within the military compared to their white counterparts “*suck it up’ is always for the ethnic person, not so much those people who are from a white background*” (V3). Where GM veterans “*are expected to have a higher pain threshold than the typical non ethnic person. We are expected to deal with pain level 8, while someone else who’s not black would probably get the help at three*” (V3). GM veterans being told stereotypes when seeking support in the military, such as “*people from the Caribbean make the problem bigger and water down the progress*” (V3) act as a barrier to seeking support.

As a result of racial discrimination some are sceptical when seeking support at OpCourage especially “*cause there is that connection (V3)*” with Departments of Community Mental Health (DCMH), where they are seen as the “*back of the queue group*” (V4). Acknowledgment of racial trauma “*was good for someone to acknowledge what I or any other person from my background could be experiencing from the military*” (V3). Positive experiences at OpCourage meant initial worries of inadequate care based on race were put aside and GM veterans had “*no thought whatsoever, trying to make me think that these people [OpCourage] are trying to play me*” (V2).

Theme 2: Stigma

GM veterans described stigma being a barrier to seeking support. Difficulties with mental health are seen as a weakness “*mental problems, it means that you cannot function, that you are weak, that you are not capable*” (V2). Veterans discussed physical and mental health needs being treated differently, “*everybody can see your leg is broken...but if you're feeling*

bad it's like... just get on with the job" (V4). Furthermore, stigma of mental health needs within different cultures led to some families discouraging treatment "*you are discouraged to talk about it and discouraged to continue your treatment*" (V2).

Theme 3: Cultural differences

GM veterans acknowledged the importance of therapists to "*try and understand where somebody's coming from, to know what their history is, [what] their experiences have been and how that might effect what is presently going on*" (V4). GM veterans raised efforts to increase the diversity of clinicians would help with rapport "*the more diverse clinicians, the more you will be comfortable*" and "*it will ease people to open up*" (V2). This shows the positive impact of representation within a culture. Some cultures have a binary understanding of mental health, which further contributes to stigma and barriers to seeking support. Some spoke of thinking "*you are normal or you're crazy because there is no in between. No one knows about the lower level*" (V3).

Theme 4: Lack of knowledge of mental health services

GM veterans suggested an awareness of DCMH but not OpCourage as a barrier to seeking support "*just knowing that the service is there*" (V4) is helpful. GM veterans spoke about their lack of knowledge of services when being discharged and that knowledge prior to leaving would be helpful "*people already may be seeing things about OpCourage and knowing where to go after*" (V1). There were mixed feelings with how well DCMH are informing GM veterans of OpCourage as some reported "*DCMH never told me anything*" (V2). Others felt "*DCMH is doing a reasonable job by letting people know that it's there and recommending you*" (V3).

For some GM veterans, hearing others' experiences of OpCourage was helpful to get a better understanding of treatment and served as motivation "*everyone just keeps saying how good they felt to be able to come to OpCourage and be able to talk it out*" (V3). In contrast, hearing negative experiences may serve as a deterrent "*someone else's experience with the group; if it's not a good experience, then that's gonna prevent them from seeking support*" (V1). It was suggested that to increase access "*putting it [OpCourage] out there for more people to see, to access it for themselves or have the knowledge to share*" (V3) would raise awareness of the service.

Theme 5: Effortful referral

GM veterans described multiple referrals and assessments. "*You have to go through so much before you get support*"(V1). The self-referral option was appreciated by many as increasing access, particularly given previous difficulties in being offered support by professionals "*I don't need to go to my GP or some other person doesn't need to refer me*"(V4). GM veterans were referred to physical health services and community services, prior to OpCourage, and would often be rejected saying "*we are not really geared up for that*" (V4). Some veterans spoke of assessments worsening their existing PTSD symptoms "*so that's normally the barrier, just having to relive it, frequently*" (V3).

Family support can be particularly helpful when accessing services and throughout treatment. GM veterans spoke about "*family that were there to support me and to keep pushing*" (V4).

Theme 6: Flexibility of treatment at OpCourage

GM veterans explained knowing they had sufficient time for treatment was helpful *“so you don’t have to feel rushed”* (V3). Additional time to build rapport was found to be helpful *“it took a bit of time to ...build rapport, and build that trust”* (V4) and *“there was a process to build up my trust”* (V2).

Financial implications for travelling to sessions was raised as a barrier for treatment *“travelling by car is not cheap...if you don’t own a car, you have to pay a cab or you have to ask somebody to drop you off”* (V4). However, additional options for treatment such as *“remote options can be very helpful, because I can sit at home, I don’t have to be looking for somebody to drop me off”* (V4). OpCourage was described as *“very flexible”* (V1). To further increase access to support, a funding pot for those who are unable to travel to sessions was suggested *“funding for their transport or commuting if it’s far away, that would be good”* (V2).

Mental health professionals

Thirteen mental health professionals working at OpCourage service attended a focus group in June 2023. The focus group consisted of psychological therapists (n=3), mental health nurses (n=2), clinical psychologists (n=2), a counselling psychologist, a trainee counselling psychologist, a trainee clinical psychologist and three professionals whose job titles were unknown. There were ten female staff members and three male staff members. Five themes and eight subthemes were identified from the focus group with staff and can be found in figure 2.2. Additional quotes for staff can be found in appendix 2.11.

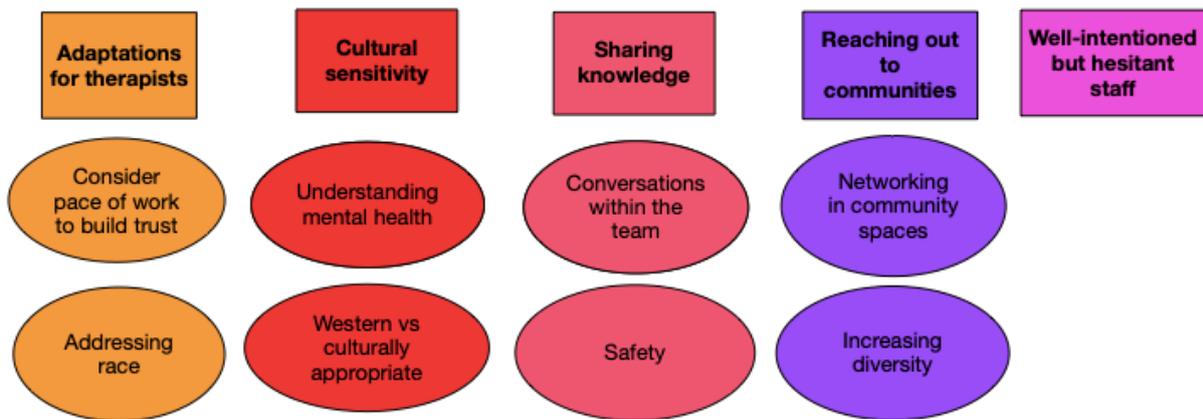


Figure 2.2. Illustration of themes and subthemes from staff focus group

Theme 1. Adaptations for therapists

Staff recognised a barrier for GM veterans seeking support at OpCourage was a lack of trust of professionals, specifically white professionals, “*Sometimes you might see them for the first time, and understandably their guard is up*” (S1). Staff thought being an NHS service may contribute to this “*they might not trust people within large institutions*” (S4). Staff explained GM veterans have “*race based trauma*” (S2) so “*thinking about difference and thinking about those experiences and how they might affect engaging with healthcare services*” (S2) is helpful. “*The engagement side of things takes longer*” (S7) but was seen as “*the important bit*” (S7) and a helpful adaptation.

Addressing race early in therapy was thought to be helpful although a “*challenge is not waiting for clients to bring up these issues*” (S4). Conversations early in therapy allowed staff to “*really understand them as a person, understand where they’re from, their beliefs and values and how we can work together*” (S1). Others expressed caution with making assumptions, “*we don’t want to assume their culture is important to them because it might not be so...it’s being careful of assumptions which in itself can be racist*” (S3).

Theme 2. Cultural sensitivity

Staff identified “*a lack of cultural awareness that we need to pay attention to and give more time to*” (S8) as a barrier to treatment when working with GM veterans. Different language around mental health was perceived as a barrier for seeking support “*I have one interpretation, whereas they have a different interpretation*” (S8). For example, a staff recalled “*I don’t think they had words for mental health in the Gurkha community*” (S7) which led to “*cultural barriers as well as language barriers*” (S7). A staff member shared they had found it helpful “*to allocate more time to really understand what is meant by the idea of mental health or the idea of trauma within that specific culture*” (S8), acknowledging the cultural differences.

Staff acknowledged it is a “*systemic issue that we use westernised models... and they aren’t always culturally sensitive*” (S3). They thought “*narrative models fit ... more than the main models that we currently use as our ‘go to’ in the service*” (S4). Staff recognised “*the formulation should include this stuff... cultural factors that might be influencing things*” (S9).

Theme 3. Sharing knowledge

Staff shared complex case discussions meant they could “*share the information when we work with cases that are complex or different in any way*” (S8). Staff found it was helpful to have conversations about Equality, Diversity and Inclusion (EDI) as “*conversations allow us to learn, get insights and awareness*” (S3). Staff spoke reflective spaces “*focused on that area of EDI will hopefully create space for those conversations around antiracism*” (S4). These conversations also allow staff members to share resources and research to aid learning.

Staff reported their discussions felt safe, in particular *“it’s helpful for supervision to be a safe space where you can bring up your work that you’re doing with veterans from the BAME [Black and Minority Ethnic] community”* (S1). Staff thought an hour of supervision per week is adequate; meaning cultural issues can be raised.

Theme 4. Reaching out to communities

Staff described existing networking has focused on NHS spaces such as *“going through GPs...and going through CMHTs”* (S11). To increase access of GM veterans it may be helpful to *“intercept community hubs”* and *“drop leaflets in Gurdwaras and Buddhist temples and mosques”* (S11). Previous work with *“the Gurkha community frames what we could be doing to reach other communities”* (S1). Staff *“would like to see the work we’re doing with the Gurkha community being rolled out, across different ethnic minorities”* (S1), for example *“meeting with the communities, with the elders”* (S1) and presenting the service.

Staff raised it may be helpful to actively make the service user forum *“more of a representative space”* (S1), as all members are White British. They discussed *“reaching out to veterans from ethnic minorities to join”* (S1) and *“a Gurkha peer support worker would be an excellent resource”* (S7).

Theme 5. Well-intentioned but hesitant staff

Staff raised a barrier to increasing access for GM veterans has been *“hesitation or some anxiety about anyone stepping forward to lead on that project”* (S4). Staff felt this contrasted other working streams which *“have taken off quite quickly”* (S4). Other staff echoed this as being *“anxiety provoking”* (S4) and it can be *“easy to get complacent and forget”* (S4) to

attend to EDI. Staff reflected they were well-intentioned; and “*it’s something we want, definitely some of us, to get more of a grip on*” (S4). Staff were keen to think about “*how do we improve our confidence*” (S4).

Discussion

Summary of results

GM veterans are underrepresented in the military and GM patients are underrepresented in mental health services. GM veterans made up seven per cent of referrals to TILS and twelve per cent of the onwards CTS referrals, compared to ten per cent of the GM military population.

Six themes emerged from interviews with GM veterans at OpCourage. Veterans highlighted racial trauma in the military and stigma in the military and within their culture as barriers to seeking support. Cultural differences, a lack of knowledge of mental health services when being discharged and an effortful referral were barriers to accessing the service. GM veterans praised the flexibility of treatment at OpCourage.

Five themes from a staff focus group included adaptations for therapists, the importance of cultural sensitivity and sharing knowledge amongst the team. Other themes included reaching out to community groups to improve access and recognition of good intentions and hesitation in staff.

Links to existing literature

GM veterans raised racial trauma as a barrier to seeking support, including receiving different treatment to their White counterparts. GM veterans have previously reported being treated differently and experiencing racial discrimination (Pearson et al., 2021; Salem et al., 2022). The minority stress model hypothesises these experiences of racial trauma would place additional stressors on GM veterans (Frost & Meyer, 2023).

GM veterans also raised stigma within the military when seeking mental health support as a barrier to seeking support at OpCourage. Again, this echoes barriers identified previously (Sharp et al., 2015). This study added to existing literature as it suggested there is a ‘double stigma’ for GM veterans; the stigma of mental health needs in the military and stigma related to their race.

Staff at OpCourage raised the importance of reaching out to communities to increase access and perceived reaching out to the Gurkha community had been helpful. Previous literature has highlighted the importance of involving the wider community when working with GM veterans (Pearson et al., 2021).

Clinical implications

Key clinical implications are the recommendations outlined below and the treatment adaptations from the staff focus group; staff shared how helpful these adaptations had been and sharing these may increase the number of positive therapeutic interactions for GM veterans at OpCourage.

Another clinical implication extending beyond OpCourage concerns racial trauma in the military, which was raised by GM veterans and staff. It is hoped awareness of racially traumatic experiences of GM veterans in the British Military, may lead to increased efforts by

the Ministry of Defence to increase cultural sensitivity, support staff training, reduce the occurrence of racism, and to offer equitable mental health treatment for GM veterans. Furthermore, continued work to reduce the stigma associated with mental health difficulties within the British Military may also prove useful.

Research implications- difficulties in recruiting GM participants

Difficulties in recruitment in this project occurred when seeking approval from the Audit and Information Governance (IG) NHS department. While other service improvement projects have directly contacted those individuals they wish to recruit, especially when working with marginalised groups, there were concerns raised from Audit and IG about directly contacting GM veterans. Fears included concerns this could be perceived as “racial profiling”. The importance of seeking informed consent is acknowledged, therefore, an important implication may be for NHS services to consider asking for consent to use contact information for service improvement projects or research. This would allow patients who would like to share their experiences for service improvement projects or participate in research to be contacted directly and may support those interested in particular projects to opt-in.

Another research implication may extend to recruitment of GM participants. GM veterans accessing the NHS in this study spoke about a lack of trust and scepticism of NHS services, which is important to consider alongside institutional racism within organisations. (Gould, 2004; Mahase, 2023). Others may be able to build off this work when thinking about how best to recruit GM participants, including giving additional time for recruitment or embedding themselves in services to give time to build rapport with GM participants. Once rapport and trust were established, GM participants were more likely to engage.

Additionally, it may be helpful to involve researchers from GM backgrounds as GM veterans voiced greater trust with increased diversity of staff.

Strengths and limitations

Giving a voice to marginalised veterans is a strength of this project. Another strength are tangible recommendations have emerged; encompassing the views of multiple stakeholders ensures the recommendations are comprehensive and reflect the needs of GM veterans and the staff supporting them.

Nevertheless, there are some limitations of this service improvement project. There were four GM veterans recruited for individual interviews, despite recruitment lasting for over nine months. This reflects the difficulties in recruitment and the conclusions should be taken in light of this. The small sample reduces the likelihood data saturation was achieved (Saunders et al., 2018). The veterans recruited were all male so findings may not speak to GM women's experiences particularly given the intersectionality of being both of the GM and female. Another limitation is the lack of consultation on cultural sensitivity of the project as the experts by experience consulted for this project were White British veterans.

Recommendations

Ten recommendations were presented to the service and are shown in table 2.3.

Table 2.3. Recommendations following staff focus group and GM veteran interviews

GM veterans interviews

Theme	Recommendation
Racial trauma in the military	1. Staff to explore racial trauma with GM veterans throughout treatment as GM veterans have raised it may take time to build trust
Lack of knowledge of MH services	2. OpCourage to attend events for current military personnel and those who are preparing for discharge to increase knowledge and publicity of the service. This would also help to dispel myths about mental health within the military
Lack of knowledge of MH services	3. Inviting veterans who have received support from OpCourage to attend military events and share their experiences, for example those in the service user forum
Effortful referral	4. Offer a self-referral option (or improve advertising of the self-referral option if it is available) as the referral process was perceived as effortful especially for GM veterans
Flexibility of treatment	5. Continue to offer a remote option for therapy post-COVID, as those struggling financially can benefit from reduced travelling costs. If possible, a funding pot for transport may be helpful if remote options are unacceptable.

Staff focus group

Theme	Recommendation
Adaptations for therapists	1. Staff to address race when working with GM veterans early in treatment

Cultural sensitivity	2. A range of culturally sensitive models to be introduced to staff to be used when helpful
Reaching out to communities	3. OpCourage to actively network with different community groups across the regions they support and invite community leaders to give training to staff. This may allow increased understanding of mental health and confidence when discussing EDI
Well-intentioned but hesitant staff	
Sharing knowledge	4. Increased frequency of CPD slots with a specific focus on EDI to allow staff to continue to have a dedicated reflective space and case discussions; where resources can be shared.
Reaching out to communities	5. OpCourage to actively attempt to increase the diversity of their peer support workers, by advertising the role to a range of veteran communities

Conclusions

This service improvement project investigated how many GM veterans had been supported at OpCourage and sought to learn more about the experiences of GM veterans and staff.

Interviews with GM veterans identified barriers to seeking support include ‘double stigma’ of mental health difficulties within the military and within cultures, prior racial trauma in the military and a lack of understanding of mental health services. Despite these barriers, varying the pace of therapy and allowing time to build trust with health professionals can prove

helpful for GM veterans. Adaptations for therapy, the need to reach out to communities to increase access and the importance of sharing knowledge arose from a staff focus group.

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Theory Driven Research Project

Does appearance anxiety differ between cisgender individuals and transgender individuals who have and have not had gender-affirming medical interventions?

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Proposed Journal: This report is intended to be published in the Body Image Journal (see Appendix 3.1 for Author Guidelines). This journal has been chosen due to its focus on issues relevant to appearance anxiety.

Abstract

Purpose of research: This project aimed to investigate differences in appearance anxiety in transgender individuals who have and have not had gender-affirming medical interventions (GAMI). This study compared appearance anxiety in cisgender people and transgender people who have and have not had GAMI and investigated what predicts this change.

Principal results: An analysis of co-variance (ANCOVA), controlling for age and depression, showed a significant difference in appearance anxiety between the gender identity groups, $F(2, 206) = 8.76, p < .001$ partial $\eta^2 = .078$. Transgender individuals who had not begun GAMI had significantly greater appearance anxiety compared to cisgender participants (mean difference of 7.12 (95% CI, 2.45 to 11.79), $p < .001$) and transgender individuals who had begun GAMI (mean difference of 7.38 (95% CI, 2.24 to 12.52), $p = .002$). There was no significant difference between transgender individuals who had begun GAMI and cisgender individuals (mean difference of -0.255 (95% CI, -5.37 to 4.86), $p = 1.00$).

Major Conclusions: Transgender individuals who had not begun GAMI had higher levels of appearance anxiety compared to cisgender controls. This increase in appearance anxiety was not seen in transgender individuals who had begun GAMI; suggesting increased access to GAMI may reduce appearance anxiety.

Keywords: transgender mental health, appearance anxiety, minority stress, gender affirming medical interventions

Does appearance anxiety differ between cisgender individuals and transgender individuals who have and have not begun gender-affirming medical interventions?

Existing literature

‘Sex’ refers to biological characteristics; ‘gender’ describes socially and culturally constructed sense of self (Kaufman et al., 2023; Short et al., 2013). Transgender (hereby trans) individuals include anyone who identifies with a gender different to their sex assigned at birth, encapsulating binary and non-binary identities (Monro, 2019; Testa et al., 2012). Some may want to transition, others may not (Beemyn & Rankin, 2011). Due to incongruence between assigned sex and gender identity, some suffer distress, known as gender dysphoria (Delgado-Ruiz et al., 2019). Some may align their outward presentation through social transition such as changing pronouns, binding their chest or padding to add or reduce bodily curves or a gender-affirming medical intervention (GAMI) including hormone therapy and surgical procedures (Delgado-Ruiz et al., 2019).

Studies of transgender and gender non-conforming individuals’ experiences

Rates of mental health difficulties are elevated in the trans population including suicidal ideation (Dhejne et al., 2016; Testa et al., 2012). Increased suicidal intent has been linked to being a stigmatized population (Clements-Nolle et al., 2006). Trans individuals who were victims of gender-based hostility were four times more likely to attempt suicide than those who were not victimised (Goldblum et al., 2012). Although this data doesn’t demonstrate a causal link, there is a clear correlation demonstrated. Health and social service needs including legal, housing, HIV, drug and alcohol support, were higher among trans women and trans People of Colour, indicating intersections of identity can increase stigmatisation (Crenshaw, 1990; Kenagy & Bostwick, 2005).

Stigma experienced by transgender individuals may lead to appearance concerns and behavioural changes including avoidance and concealment. Transgender participants “concealed their gender identity to avoid intimidation” (p.100) (Beemyn & Rankin, 2011). Threats of physical and sexual violence led to increased vigilance, avoidance of perpetrators and concealment of gender identity, through clothing (Austin & Craig, 2019; Wyss, 2004).

Minority Stress Model

The minority stress model explains stigma and discrimination can create hostile or stressful environments, contributing to increased prevalence of health difficulties (Meyer, 2003). It hypothesises prejudice leads to concealment and internalised stigma. There are three processes resulting in minority stress: firstly, the objective environment creates overt stress for example discrimination, secondly: anticipation of a stressful event and vigilance to maintain safety leads to hiding their identity to prevent harm. Thirdly: negative prejudices lead to internalised stigma and reduced resilience (Meyer, 2003). An adapted model incorporates transgender individuals’ experiences (Hendricks & Testa, 2012). In the adapted model stressful events include physical violence and sexual violence, related to gender identity and expression, reported in trans populations. The internalised stigma in the adapted model is internalised transphobia. As well as contributing to increased mental health difficulties, minority stress experiences appear to result in internalised transphobic stigma (Mizock & Mueser, 2014); although how GAMI impacts this is unclear.

Appearance related anxiety

Appearance anxiety is a preoccupation with one's appearance and a fear appearance will be negatively evaluated (Hart et al., 2008). A theoretical 'model of visible difference' proposes social norms about appearance may conflict with having a visible difference leading to stigmatisation and appearance anxiety (Kent, 2002). 'Visible difference' describes an individual whose appearance differs from the culture's expectation (Kent, 2002) such as having facial burns or scars. Heightened anxiety leads to impression-management to conceal appearance such as concealing a scar with makeup or covering an Adam's apple; and managing anxiety about rejection using strategies such as avoidance (Kent, 2002). Studies have shown those who are 'visibly different' are more likely to avoid social situations and have lower self-confidence (Kent, 2002); similar to coping strategies used by transgender individuals (Beemyn & Rankin, 2011). Medical surgery can help manage appearance and reduce anxiety by reducing the noticeability of visible difference (Kent, 2002). Similarly, GAMIs can reduce gender dysphoria, though a widely debated issue is the extent to which individuals wish to 'pass' (being read as one's gender identity rather than sex assigned at birth) (Pullen Sansfaçon et al., 2019). Passing may reduce anxiety, reduce discrimination and may be related to internalised stigma specifically cis-normativity, that individuals 'should' look cisgender rather than trans (Anderson et al., 2022).

There may be similarities to the stigma experienced by those with a visible difference and transgender individuals related to their appearance (Germain et al., 2021; Wyss, 2004). While appearance related distress has been shown to be greater in those with a visible difference, there is little research to determine appearance anxiety in transgender individuals despite suggestions appearance anxiety may be an issue faced by some in the trans population (Dalgard et al., 2015; Yeşilyurt & Kendirkıran, 2024).

Medical interventions

Kent proposes medical interventions improve body esteem, reduce avoidance, but do not affect appearance-related schema. This has been supported by studies looking at the effects of medical interventions for those with a visible difference (Kellett & Gawkrödger, 1999; Kent, 2002; Lovius et al., 1990). The impact of gender-affirming medical interventions on appearance anxiety in trans people has not been studied before, hence the rationale for this study.

Brief Outline: Aims and objectives

This project aims to investigate differences in appearance anxiety in transgender people who have and have not had GAMI and cisgender people, and investigate what predicts this change.

Research questions and hypotheses:

Research Question:

1. Does appearance anxiety differ between cisgender individuals and transgender individuals?

Hypothesis 1: Appearance anxiety will be greater in transgender individuals, both those who have and have not had GAMI, compared to cisgender individuals.

2. Do levels of appearance anxiety, and theoretically-related constructs, differ between transgender individuals who have and have not begun GAMI?

Hypothesis 2: Transgender individuals, who have begun GAMI, will experience a reduced level of appearance anxiety compared to transgender individuals who have not.

Hypothesis 3: Avoidance, stigma and gender dysphoria will be lower in transgender individuals who have begun GAMI compared to transgender individuals who have not. Appearance related schemas will not differ in those who have begun GAMI compared to those who have not.

3. What predicts differences in appearance anxiety in transgender individuals?

Hypothesis 4: Stage of transition, gender dysphoria, stigma and appearance schema will all predict appearance anxiety in transgender individuals.

Method

Design

The study used a cross-sectional, between-groups design with three groups: transgender individuals who had not begun GAMI, transgender individuals who had begun GAMI and cisgender individuals.

Participants

Inclusion and exclusion criteria

Inclusion criteria:

- Transgender sample (have not begun GAMI): self-identified as transgender including non-binary and had not begun any GAMI

- Transgender sample (begun GAMI): begun all GAMI they currently want, and begun GAMI at least a year ago to allow sufficient time for biological changes.
- All (including cisgender sample): 18+ years of age
- All (including cisgender sample): Living in the United Kingdom

Exclusion criteria:

- Participants with a visible difference, including a visible physical disability
- Diagnosis of an eating disorder
- Unable to read or write in English

Recruitment occurred using social media including X (formerly Twitter), Instagram, LGBTQ+ charities and support groups (see appendix 3.2 for recruitment poster). This involved using Instagram to share the recruitment poster to individuals and relevant organisations. Instagram advertising was used to boost posts to relevant audiences.

Measures

All measures used are in table 3.1 with a description of the concept they measure. The internal consistency for each measure is reported in appendix 3.4.

Table 3.1. Measures used and their description

Name of measure	Concept	Description	Psychometric properties

Social Appearance Anxiety Scale (SAAS)	Appearance	16-item measure of anxiety about being negatively evaluated by others because of appearance (Hart et al., 2008). It has no established clinical cut-offs.	Demonstrated high convergent validity with social anxiety and internal consistency in a sample of university students of mixed genders and ethnic backgrounds (Hart et al., 2008).
Body Image Coping Strategies Inventory (BICSCI): Avoidance and Appearance fixing subscales	Body Image Coping strategies: Avoidance and Appearance Fixing	29-item measure measuring how challenges to body image are managed (Cash et al., 2005). Avoidance describes attempts to escape stressful situations and appearance-fixing describes altering appearance (Cash et al., 2005). It has no established clinical cut-offs.	BICSCI showed good convergent validity and was negatively associated with body-image quality of life in a mixed gender sample of university students (Cash et al., 2005) There is no indication that participants identified as transgender in studies looking at its

			psychometric properties.
Appearance Schemas Inventory Revised (ASI-R)	Appearance investment, importance and influence of appearance	20-item measure measuring beliefs and assumptions about the importance and influence of appearance (Cash et al., 2004). People's engagement in behaviours to improve appearance and the importance of appearance varies (Jarry et al., 2019). It has no established clinical cut-offs.	ASI-R and the original Appearance Schemas Inventory correlated significantly (Cash et al., 2004).
Patient Health Questionnaire (PHQ-8)	Depression	PHQ-8 is an 8-item measure for depression It is as useful as the PHQ-9 for Major Depression Disorder	The PHQ-8 has been associated with scores on the Hamilton Depression Scale (Shin et al., 2019).

screening (Shin et al., 2019). Scores of 5,10, 15 and 20 represent cut points for mild, moderate, moderately severe and severe depression (Kroenke et al., 2009).

Utrecht Gender Dysphoria Scale- Gender Spectrum (UGDS-GS)	Gender Dysphoria	Utrecht Gender Dysphoria Scale- Gender Spectrum (UGDS-GS) measures gender dysphoria (McGuire et al., 2020). A cut off point of 60 has been suggested as an indicator of gender dysphoria (Jamneankal et al., 2023).	It is appropriate at any stage of social and medical transition and inclusive of all gender identities (McGuire et al., 2020). It had good construct validity in a transgender and non-binary sample (McGuire et al., 2020).
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Internalised and	Internalised and	Comprises nine items	Scales have been
Anticipated	Anticipatory	measuring anticipated	evaluated in a sample
Transgender Stigma	Stigma	transgender stigma	including transgender
subscales		and five items for	women (Rendina et
		internalised	al., 2020).
		transgender stigma	
		(Rendina et al., 2020).	
		It has no established	
		clinical cut-offs.	

Procedure

Participants were given a combined information and consent form (appendix 3.3).

Participants were presented with information for support organisations including Stonewall and NHS services. Qualtrics was the platform used for survey completion. Demographic information was collected. All participants completed the questionnaires: SAAS, ASI-R, BICSCI and the PHQ-8. Transgender participants also completed the Internalised and Anticipated Transgender Stigma Scale and UGDS-GS. Copies of non-copyright questionnaires completed are shown in appendix 3.6. Transgender individuals were presented with open-ended questions as authors had intended to analyse this data to develop themes. Following completion, participants were again presented with support information and submitted responses.

Governance procedures

Ethical approval was sought through the University of Oxford (see appendix 3.5).

Data analysis

Tests were carried out to ensure the underlying assumptions of parametric tests were met. Where these were not met, non-parametric equivalents were used. Further information about underlying assumptions can be seen in appendix 3.7. Differences in demographic information and depression between groups was assessed using Kruskal-Wallis or Analysis of variance (ANOVA).

Hypothesis 1 and 2: Using the SAAS, appearance anxiety (dependent variable) was measured in the transgender groups who have and have not begun GAMI, and the cisgender group (independent variable), using a one-way analysis of co-variance (ANCOVA) with post-hoc analysis. Depression and age were adjusted for due to group differences.

Hypothesis 3: A series of ANCOVA or non-parametric ANCOVA (Quade's) calculations (controlled for depression) were carried out to investigate group differences between the begun and not begun GAMI transgender groups (independent variable) using the internalised and anticipatory stigma scales, UGDS-GS and ASI-R (dependent variables). A Mann Whitney U test investigated group differences using the BICSCI avoidance scale. The p values were adjusted to 0.01 using Bonferroni correction, to account for five comparisons.

Hypothesis 4: A hierarchical multiple regression was used to investigate if stage of transition, gender dysphoria (UGDS-GS), anticipatory stigma and internalised stigma (Internalised and Anticipated Transgender Stigma Scales) predicted appearance anxiety (SAAS); the criterion variable. The predictor variables were:

- Step 1: Stage of transition (not begun GAMI and begun GAMI) and age
- Step 2: Appearance schemas and depression
- Step 3: Internalised stigma, anticipatory stigma and gender dysphoria

Due to practical time constraints and large numbers of responses to open-ended questions, the authors were unable to analyse the dataset at the time of submission.

Power analysis

A G*power analysis for hypothesis 1 (ANCOVA) determined a sample size of 207 was needed to get a power of 0.9 to detect a medium effect size of $f=0.25$ (Kang, 2021).

Patient and participation involvement

Transgender individuals were consulted regarding language of research materials, which was important given some measures were developed for physical health settings. They were compensated financially.

Results

Participant characteristics

Two hundred and eleven people participated in the study of which $n=78$ identified as cisgender (37.0%), $n = 81$ identified as transgender and had not begun GAMI (38.4%) and n

= 52 identified as transgender and had begun GAMI (24.6%). Figure 3.1 shows the numbers of participants throughout data collection. The mean age of the sample was 26.62 years (SD: 8.21). Additional demographic information of the participants can be seen in table 3.2.

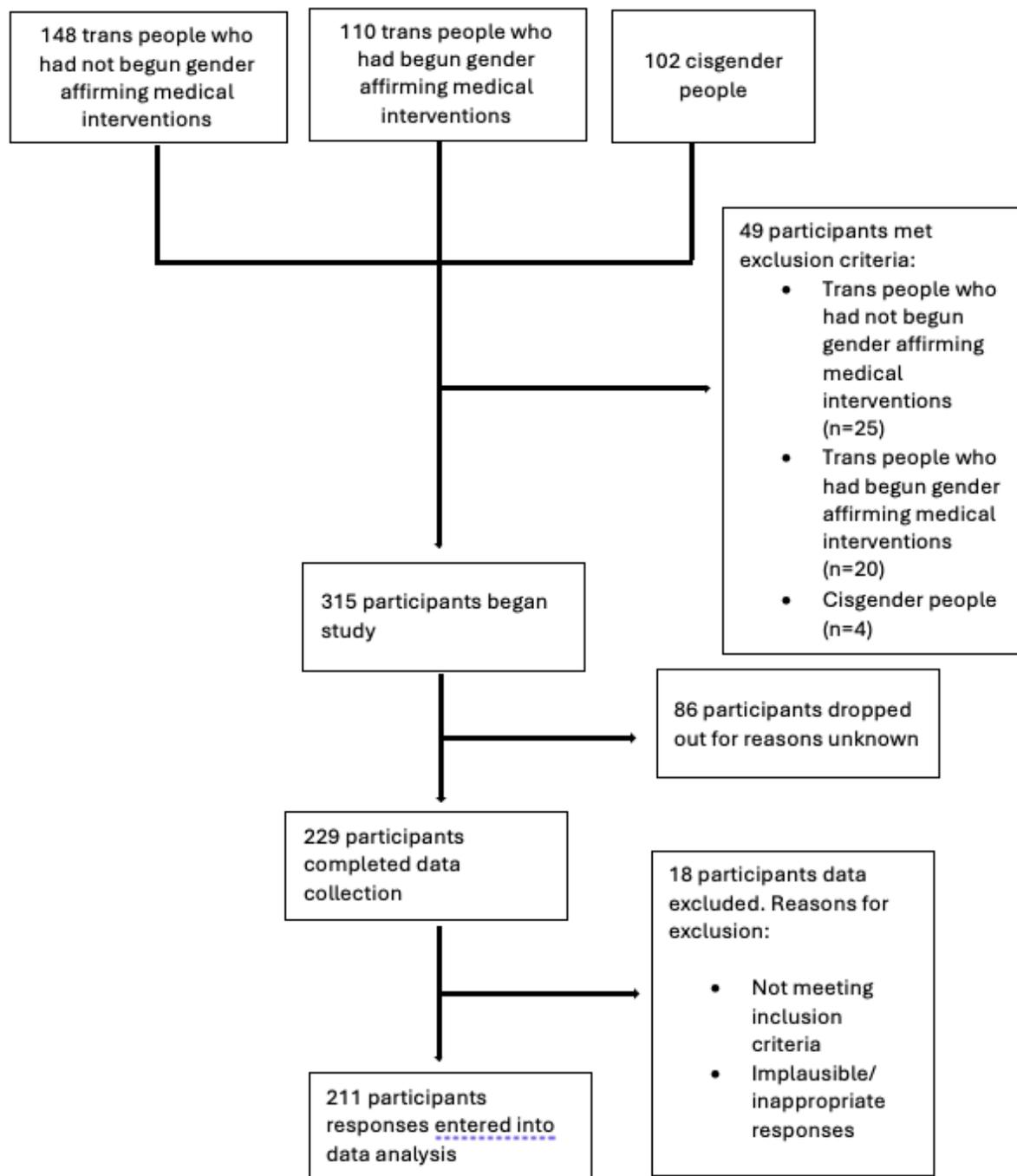
Table 3.2. Demographic information of participants

		Frequency	Percentage
Gender			
Transgender man		50	23.7
Transgender woman		18	8.5
Non-binary		53	25.1
Cisgender man		10	4.7
Cisgender woman		67	31.8
Other		13	6.2
Ethnicity			
White	White British	132	62.6
	White Irish	4	1.9
	White Roma	2	0.9
	White Other	36	17.1
Mixed	Mixed- White and Black Caribbean	2	0.9
	Mixed- White and Black African	2	0.9

	Mixed- White and Asian	8	3.8
	Mixed- Other	1	0.5
Black	Black or Black British-African	6	2.8
Asian	Asian or Asian British-Indian	7	3.3
	Asian or Asian British-Chinese	3	1.4
	Asian or Asian British-Other	2	0.9
Other	Arab	4	1.9
	Other	2	0.9
Sexuality			
	Lesbian/ Gay	42	19.9
	Bisexual	75	35.5
	Heterosexual	44	20.9
	Other	50	23.7
	Other-Queer	17	8.1
	Other-Pansexual	6	2.8
	Other-Asexual	17	8.1
Assigned sex at birth			
	Female	166	78.7

Male	40	19.0
Prefer not to say/ Other	5	2.4

Figure 3.1. Flowchart showing numbers of participants at each stage of data collection



Demographic group differences

Age

A Kruskal-Wallis test was performed (due to non-normality) to investigate differences in age between the three groups (cisgender, trans not had GAMI and trans had GAMI). The differences between the rank totals of 130.30 (cisgender), 89.63 (trans had not had GAMI) and 95.05 (trans and had GAMI) were significant, $H(2, n=211) = 19.93, p < 0.001$. A Mann-Whitney U showed age did not significantly differ between the two transgender groups ($U = 1916.0, z = -8.79, p = .380$).

Ethnicity

As Chi square relies on an assumption of an expected frequency of at least five per group, to detect differences between groups, ethnicity was coded as either Global Majority (combining Black, Asian, Mixed or Other groups) or White. A chi-square test of independence showed there was no significant associations between ethnicity and gender identity, $X^2(2, N=211) = 0.42, p = .81$.

Sex assigned at birth

A chi-square test showed there was no significant associations between sex assigned at birth and gender identity, $X^2(4, N=211) = 5.6, p = .23$.

Sexuality

A chi-square test showed there was a significant association between sexuality and gender identity, $X^2(6, N=211) = 76.02, p < 0.001$. 50% of cisgender participants were heterosexual, while less than 4% of each trans group were heterosexual. The results of the Fisher's Exact

test ($p = .70$), looking at differences between the two transgender groups only, did not indicate a significant association between sexuality and stage of transition.

Depression

A Kruskal-Wallis test (performed due to non-normality) found significant differences between the three groups: 92.17 (cisgender), 127.04 (trans and no GAMI) and 93.96 (trans and had GAMI), $H(2, n = 211) = 15.7, p < 0.001$. Post-hoc analysis showed the transgender group who had not begun GAMI (median PHQ8 = 10) had significantly lower mood compared to the cisgender group (median PHQ8 = 6) ($U = 2104.5, z = -3.64, p < 0.001$) and the transgender group who had begun GAMI (median PHQ8 = 6) ($U = 1456.0, z = -3.00, p = 0.03$). The transgender group who had GAMI and cisgender group did not have any significant differences in depression ($U = 2004.0, z = -.11, p = 0.91$). Due to differences in mood, depression was controlled for in relevant analyses.

Hypothesis 1 and 2

An ANCOVA found there was a significant difference in appearance anxiety between the gender identity groups, after controlling for depression and age. ($F(2, 206) = 8.76, p < .001$ partial $\eta^2 = .08$). Post hoc analysis performed with Bonferroni adjustment found transgender individuals who had not begun GAMI had significantly greater appearance anxiety compared to cisgender participants (mean difference of 7.12 (95% CI, 2.45 to 11.79), $p < .001$) and transgender individuals who had begun GAMI (mean difference of 7.38 (95% CI, 2.24 to 12.52), $p = .002$). There was no significant difference between transgender individuals who

had begun GAMI and cisgender individuals (mean difference of -0.26 (95% CI, -5.37 to 4.86), $p = 1.00$). Means can be found in table 3.3.

Table 3.3. Unadjusted and adjusted means for appearance anxiety for each group

	N	Unadjusted		Adjusted (for depression and age)	
		M	SD	M	SD
Transgender (not begun GAMI)	81	51.15	12.87	48.34	1.34
Transgender (begun GAMI)	52	39.52	15.61	40.96	1.64
Cisgender	78	39.26	14.86	41.22	1.35

Hypothesis 3

Avoidance related to appearance:

A Kruskal-Wallis test was performed (due to non-normality) to investigate differences in avoidance between the three groups (cisgender, trans not had GAMI and trans had GAMI).

The differences between the rank totals of 91.91 (cisgender), 127.68 (trans had not had GAMI) and 93.37 (trans and had GAMI) were significant, $H(2, n = 211) = 16.66, p < 0.001$.

A Mann-Whitney U test was performed (due to non-normality) and showed median BISCI-avoidance scores were significantly higher in the transgender group who had not had GAMI (median score 1.50) compared to the transgender group who had begun GAMI (median score 1.25), $U = 1414.5, z = -3.20, p < 0.001$; indicating transgender people before GAMI engage in more frequent appearance related-avoidance behaviours.

A Mann Whitney U showed BISCII-avoidance scores were significantly higher in the transgender group who had not had GAMI (median score= 1.50) compared to the cisgender group (median score=1.13), $U=2094.5$, $z= -3.68$, $p< 0.001$. There was not a significant difference between BISCII-avoidance scores in trans people who had GAMI and cisgender controls, $U=1993.5$, $z= -0.164$, $p= 0.869$.

Internalised stigma

A Quade's ANCOVA showed no significant difference in internalised stigma between the transgender groups, when adjusted for depression, $F(1,131) = .81$, $p= .371$, partial $\eta^2 = .01$.

Anticipatory stigma

An ANCOVA showed no significant difference in anticipatory stigma between the transgender groups, when adjusted for depression, $F(1,130) = .95$, $p= .332$, partial $\eta^2 = .01$.

Gender dysphoria

A Quade's ANCOVA showed a significant difference in gender dysphoria between the transgender groups, when adjusted for depression, $F(1,131) = 8.71$, $p= .004$, partial $\eta^2 = .06$. Transgender participants who had GAMI had higher gender dysphoria (mean rank =74.92) compared to the transgender group who had not had GAMI (mean rank =61.91).

Appearance-related schemas

A Quade's ANCOVA showed no significant difference in appearance related schemas between the transgender groups, when adjusted for depression, $F(1,131)= .222$, $p= .638$, partial $\eta^2 = .00$.

Hypothesis 4

In a hierarchical multiple regression, model 1 significantly predicted appearance anxiety $F(2, 130)=11.63, p <.001, \text{adj. } R^2= .14$. Stage of transition significantly predicted appearance anxiety.

Depression and appearance schemas were entered as covariates in block 2, as depression was significantly different between groups and the appearance schemas and appearance investment is thought to increase appearance anxiety (Jarry et al., 2019). Model 2 statistically significantly predicted appearance anxiety $F(4, 128)= 49.38, p <.001, \text{adj. } R^2= .59$, indicating this model accounts for 59% of variance in appearance anxiety, a large effect size (Cohen, 1988; Cohen, 1992). Stage of transition, appearance schemas and depression were significant predictors of appearance anxiety the multiple regression model. The addition of depression and appearance schemas (model 2) to the prediction of model 1 led to a statistically significant increase in R^2 of .46, $F(2, 128)= 74.06, p <.001$.

Internalised stigma, anticipatory stigma and gender dysphoria were entered in block 3. Model 3 statistically significantly predicted appearance anxiety $F(7, 125)= 36.23, p <.001, \text{adj. } R^2= .65$, indicating this model accounts for 65% of variance in appearance anxiety, a large effect size (Cohen, 1988; Cohen, 1992). Stage of transition, appearance schemas, depression and internalised stigma were significant predictors of appearance anxiety in the final multiple regression model. The addition of internalised stigma, anticipatory stigma and gender dysphoria (model 3) to the prediction of model 2 led to a statistically significant increase in R^2 of 0.063, $F(3, 125)= 7.96, p <.001$, but of these only internalised stigma was found to be a significant predictor. Regression coefficients and standard errors can be found in table 3.3.

Table 3.4. Multiple regression model for appearance anxiety

Appearance anxiety (SAAS)	<i>B</i>	95% CI for <i>B</i>		<i>SE B</i>	β	<i>R</i> ²	ΔR^2	Adj <i>R</i> ²
		<i>LL</i>	<i>UL</i>					
Model 1								
Model						.15	.15	.14
Constant	55.37***	47.54	62.30	3.96				
Age	-.17	-.45	.12	.14	-.09			
Stage of transition	-	-16.46	-6.63	2.45	-.38			
	11.54***							
Model 2								
Model						.61	.46	.59
Constant	-4.71	-17.23	7.80	6.32				
Age	.13	0.49	-.07	.33	.08			
Stage of transition	-7.13***	-10.61	-3.65	1.76	-.23			
Appearance schemas (ASI-R)	11.73***	-0.20	8.69	14.78	.46			
Depression (PHQ-8)	1.03***	-0.11	.72	1.34	0.40			
Model 3								
Model						.67	.06	.65
Constant	-14.95*	-29.53	-.38	7.37				
Age	0.15	-0.04	.34	.10	0.09			
Stage of transition	-7.18***	-10.52	-3.83	1.69	-			
					0.23***			
Appearance schemas (ASI-R)	10.43***	7.45	13.42	1.51	0.41***			
Depression (PHQ-8)	0.79***	0.49	1.10	.16	0.31***			
Internalised stigma (ITSS)	0.98***	0.50	1.47	.25	0.23***			
Anticipatory stigma (ATSS)	0.14	-0.20	0.48	.17	0.05			
Gender dysphoria (UGDS-GS)	.070	-0.11	0.25	.09	0.05			

Note. Model= “Enter” method in SPSS Statistics; *B*= unstandardized regression coefficient; CI= confidence interval; LL= lower limit; UL=upper limit; *SE B*=standard error of the

coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = difference in R^2 ; adj R^2 = adjusted R^2 .

* p < .05. ** p < .01. *** p < .001.

Discussion

Summary of findings

A cross-sectional study with 211 participants showed transgender people who had not begun GAMI had higher levels of appearance anxiety compared to cisgender people and transgender people who had begun GAMI. This heightened appearance anxiety was not seen in transgender people who had begun GAMI; their appearance anxiety was similar to cisgender controls.

Avoidance was greater in transgender people who had not had GAMI compared to those who had. In transgender people who had GAMI avoidance related to anxiety was similar to cisgender controls. In contrast to hypotheses, internalised stigma and anticipatory stigma showed no differences between the two transgender groups and gender dysphoria was worse in transgender people who had GAMI. As predicted, appearance-related schemas showed no differences between transgender groups. The regression model accounted for 65% of variance in appearance anxiety, a large effect size.

Relevance to other findings

Worse appearance anxiety in transgender people before GAMI compared to cisgender and transgender people who had begun GAMI

Previous research has shown appearance related distress is greater in people with a visible difference (Dalgard et al., 2015; Yeşilyurt & Kendirkıran, 2024). ‘Passing’ is a strategy used by some trans people to subvert discrimination that arises from being read as trans (Anderson et al., 2022; Bränström & Pachankis, 2021). This study’s finding that transgender people who had not begun GAMI experienced increased appearance anxiety compared to cisgender controls and those who have begun GAMI, is in line with this.

Similar appearance anxiety in trans who had GAMI and cisgender people

Previous research looking at the impact of GAMI on transgender people have found increased happiness and reduced mental health difficulties in transgender people who have had GAMI compared to those who have not; this has been observed globally (Bränström & Pachankis, 2019; Fallahtafti et al., 2019; Hughto et al., 2020). Studies have shown increased body satisfaction in trans people receiving GAMI when using a repeated measures design (van de Grift et al., 2016). Therefore, transgender people who have begun GAMI may also experience increased body satisfaction and better mental health leading to less avoidance and similar levels of appearance anxiety as in cisgender controls (van de Grift et al., 2016). The study’s finding that avoidance was reduced in transgender people who had GAMI, compared to those who had not, further supports this.

Changes in avoidance and no change in appearance schemas after medical intervention

In studies in those with a visible difference, while medical interventions reduced avoidance it did not affect appearance related schema such as the importance placed on appearance (Kellett & Gawkrödger, 1999; Kent, 2002; Lovius et al., 1990). The findings that there is a reduction of avoidance behaviours but no difference in appearance schemas, in transgender

people who have begun GAMI compared to those who have not, is in line with this and adds to previous research on identity concealment in trans people (Bränström & Pachankis, 2021)

No differences in stigma (anticipatory and internalised) between transgender groups

The authors hypothesised those who had not begun GAMI may have higher levels of internalized stigma compared to those who undertake GAMI. Internalised stigma, including the internalisation of binary norms, may impact if someone has GAMI (Anderson et al., 2022). Those with more transphobic experiences may be more likely to internalize transphobic attitudes (Brewster et al., 2019). The authors recognise the choice to not undergo GAMI, may not be due to heightened internalized stigma, explaining similar internalized stigma across trans groups. There are other factors which may account for people not having GAMI for example difficulties in accessing trans-affirmative healthcare (TransActual, 2021).

The authors hypothesised anticipatory stigma would be higher in those who had not begun GAMI because they may encounter difficult transphobic experiences more frequently. As the measure does not specify a time period transgender individuals who had GAMI may still report similar levels of anticipatory stigma on the measure, to those who have not, due to historical transphobic experiences, either prior to gender-affirming medical interventions or once transitioning. The impact of increased discrimination and violence against trans people has been previously researched (Drabish & Theeke, 2022)

Increased gender dysphoria in trans group who had begun GAMI

The authors hypothesised that those who had undergone GAMI would experience less gender dysphoria compared to those who had not. There are other treatments for gender dysphoria

including psychosocial therapy to improve quality of life and supporting people to implement their gender identity (Anderson et al., 2022). Social transition is an intervention to alleviate gender dysphoria and often predates GAMI (Coleman et al., 2012; Reynolds & Goldstein, 2014). Transgender people who had not begun GAMI, may have begun the process of social transition which may alleviate some gender dysphoria. In those who do not intend to have GAMI, socially transitioning may sufficiently alleviate their gender dysphoria. In a transgender Thai sample, the average UGDS-GS score for those with gender dysphoria was 77.82 and 46.03 for those without gender dysphoria (Jamneankal et al., 2023). In the current study, the median scores for gender dysphoria in transgender groups who had and had not had GAMI in this study were 75.50 and 70.00 respectively; suggesting both groups experienced high levels of gender dysphoria.

The authors propose two explanations for the increased gender dysphoria in the transgender group who had GAMI compared to those who had not. Firstly, given those who had GAMI had been living in their affirmed gender for at least a year following GAMI, they may be more averse to living in their assigned sex compared to transgender individuals who had not had GAMI and may currently be doing this. The UGDS-DS has items such as “I feel uncomfortable behaving like my assigned sex”. Those who have not had GAMI may have habituated more to living in their assigned sex than those who have undergone GAMI; leading to those who have begun GAMI rating this as more distressing. Secondly, the authors propose hopefulness of beginning GAMI in those who have not had GAMI may contrast the lived experience of transgender people who have begun GAMI and continue to experience stressors including transphobia. Items such as “A life in my affirmed gender is more attractive for me than a life in my assigned sex” may lead to transgender individuals before

GAMI scoring more positively than those who have begun GAMI; who may continue to experience difficulties due to other aspects of their identity and continued transphobia.

Predictors of appearance anxiety: stage of transition, appearance schemas, depression and internalised stigma

Having a visible difference has been associated with appearance anxiety, particularly in those who perceive their visible difference as highly noticeable (Hughes et al., 2022). Similarly, research has found that some transgender people experience hypervigilance and conceal their gender identity prior to GAMI (Beemyn & Rankin, 2011; Wyss, 2004). It is perhaps not surprising, stage of transition predicted appearance anxiety.

Those who have greater appearance schemas and investment spend more time on their physical appearance, pay more attention to their appearance and view appearance as influential in their life events. A systematic review has shown in a range of populations, clinical and subclinical, higher appearance investment is related to more negative appearance related outcomes including higher body comparison, pressure to improve or maintain appearance (Jarry et al., 2019). It follows, in this study higher levels of appearance schemas and investment would predict appearance anxiety in transgender populations too.

Depression was also a significant predictor of appearance anxiety. Anxiety caused by appearance, may lead to a lack of confidence and social withdrawal; the latter being a symptom and maintenance factor in depression (Jean-Paul Selten et al., 1998; Xian et al., 2024). The relationship between depression and appearance related difficulties including self-esteem and body dissatisfaction has been previously explored (Gavin et al., 2010). It has

previously been suggested depression may exacerbate existing dissatisfaction and introduce new dissatisfaction; worsening anxiety about appearance (Marsella et al., 1981).

Internalised stigma was the last predictor of appearance anxiety. Studies have shown transgender individuals with greater exposure to discrimination experienced greater depression and anxiety (Puckett et al., 2020). Anti-transgender discrimination also correlated with internalisation of dominant attitudes and norms (Brewster et al., 2019). In those with a visible difference, stigmatisation resulted in people limiting their life experiences due to self-consciousness about their appearance, shame and embarrassment (Sampogna et al., 2012; Tuckman, 2017). Similarly, transgender people experiencing internalised stigma may feel appearance anxiety, exhibit avoidance and withdrawal.

Future research implications

It is important to learn more about trans people's experiences of appearance. This would allow trans people to talk about how appearance anxiety impacts them, for example what they may avoid or how they cope with appearance anxiety. Furthermore, exploring the experiences of those who have begun GAMI would provide more information about the impact of gender-affirming medical interventions for trans people. The authors intend to publish a related piece of work, giving voice to trans people's experiences and allowing intersectionality to be explored.

Additionally, longitudinal research would be a helpful contribution to the literature; the limitations of cross-sectional designs are discussed below. As discussed, this paper looked at appearance anxiety in trans people without visible disabilities. Future research exploring

appearance anxiety in transgender disabled participants may be of use to a population who experience a combination of ableism and transphobia.

Clinical implications

Ensuring access to gender-affirming medical interventions for transgender people who want to receive GAMI is an important clinical implication of this study. Despite increased gender dysphoria, there was a reduction in appearance anxiety, mood and avoidance in trans people who had begun GAMI. Currently there are increasing waiting times for transition related NHS care; 90% of individuals reported delays when accessing transition related NHS care (TransActual, 2021). The NHS provision was thought to not be completely adequate (98%) (TransActual, 2021). It is hoped that by demonstrating trans people who have begun GAMI have reduced appearance anxiety, in line with cisgender controls, this study can add to the evidence base illustrating the importance of gender-affirming medical interventions.

Given appearance schemas and internalised stigma also predicted appearance anxiety in trans people, addressing these in psychological therapy with trans people presenting with anxiety about their appearance, as well as promoting wider societal change, may prove useful. Exploring beliefs about the importance of appearance in one's life may reduce appearance anxiety, which is particularly helpful given delays accessing GAMI and for those trans people who do not want GAMI. Furthermore, reducing internalised stigma may prove helpful at reducing appearance anxiety and improving the wellbeing of trans people, given the pervasive transphobia experienced (TransActual, 2021).

Limitations

The inclusion criteria excluded those with visible difference and those with a diagnosis of eating disorders. While this was helpful to draw conclusions that differences were related to gender identity, this does reduce the external validity of the findings. The Trans Lives Survey 2021 found that being a Black person and Person of Colour (BPOC) and/or disabled may be linked to a worse experience of and heightened impact of transphobia (TransActual, 2021). In the Trans Lives Survey, 46% of their participants self-identified as disabled according to the Equality Act definition, reflecting a larger percentage of disabled people than in the UK Census (46% vs 17%) (Office for National Statistics, 2023). As visibly disabled people were excluded in this study, the authors recognise the findings may not reflect the experiences of some disabled trans people, who make up a considerable portion of the transgender population.

The study design for this research is a between-groups design. An alternative could have been a longitudinal design where authors recruit trans people before GAMI and repeat measures with them at least a year after beginning GAMI along with a cisgender group. However, the time delay for a medical transition was likely to result in data collection being impractical to complete during the time available. One limitation of the between-group design is there are individual differences between participants in each condition potentially introducing additional confounders and impacting the results (Keren, 2014).

It should be noted that there were differing numbers of transgender men and transgender women who took part (23.7% vs 8.5%) and cisgender men and cisgender women (4.7% vs 31.8%). Importantly 25.1% of the sample consisted of non-binary people. The conclusions should be taken in light of this; particularly thinking about which subgroups of transgender people may have elevated appearance anxiety.

Conclusions

The study found transgender people who had not begun GAMI experience heightened levels of appearance anxiety compared to their cisgender counterparts and those who had begun GAMI. Stage of transition, appearance schemas, depression and internalised stigma all predicted appearance anxiety. The authors intend to conduct further research giving voice to trans people who have and have not had GAMI to learn more about their experiences of appearance anxiety. Clinically, this study suggests GAMI can serve as a useful tool in reducing appearance anxiety. Efforts should be made by healthcare providers to increase access to this.

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Executive Summary

Investigating differences in appearance anxiety in a transgender sample who have and have not had gender affirming medical transitions, and cisgender participants

Background: Transgender (trans) individuals are people whose gender identity is different from the sex they were assigned at birth. Some may want to transition to live as the gender they identify and may seek gender-affirming medical interventions. Gender-affirming medical interventions are medical treatments that may reduce the distress that transgender individuals face and are designed to support and affirm someone's gender. Experiences of prejudice, transphobia and violence, may lead transgender people to conceal their identity. Appearance anxiety is how preoccupied someone is with their appearance and their fear this will lead them to be viewed negatively by others. In other groups who experience stigma because of their appearance, such as those with facial burns or scars, research has shown increased appearance anxiety.

There are two models that are related to appearance anxiety that the authors drew upon. The first is 'a model of Visible difference' used to describe appearance anxiety in people with a medical condition whose anxiety differs from social norms. They experience stigma, may develop anxiety about their appearance and may attempt to manage the impression others make such as concealing their appearance or avoiding situations. This affects their quality of life and mood. The second model is the 'minority stress model' which suggests everyday stressors that are experienced by most people, are made worse by minority-related stressors such as discrimination, physical violence and rejection related to a

minoritised status such as transphobia. This leads to a hostile and stressful environment, and increased mental and physical health difficulties.

Aims: This study aimed to investigate a) whether there were differences in appearance anxiety between transgender people who have not had gender-affirming medical interventions and cisgender participants (whose gender identity match the sex they were assigned at birth), b) whether there were differences in appearance anxiety and psychological processes between transgender people who have had gender-affirming medical interventions and those who have not and c) whether the psychological processes that have been proposed by the models are associated with appearance anxiety in transgender individuals.

Method: The authors asked three groups to participate: transgender participants who had not received any gender-affirming medical care to participate, transgender participants who had received gender-affirming medical care and cisgender participants. Participants were recruited through social media and charities. Participants could not have a visible physical disability or a diagnosis of an eating disorder. All participants were asked to fill in online anonymised surveys: a questionnaire asked about appearance anxiety, one about avoidance because of their appearance, one about people trying to change their appearance, how much people were invested in their appearance and low mood. The remaining questionnaires were for transgender participants to complete only and asked about stigma and gender dysphoria..

Results: The study found transgender people who had not had gender-affirming medical interventions, had higher levels of appearance anxiety compared to the transgender group who had gender-affirming medical interventions. Appearance anxiety in transgender participants who had begun gender-affirming medical interventions was similar to cisgender participants.

The study found transgender participants who not had gender-affirming medical interventions avoided more because of their appearance compared to transgender participants that had gender-affirming medical interventions. In contrast to the authors' predictions, there was no difference in the amount both transgender groups held transphobic beliefs and anticipated transphobia in their lives. Those who had begun GAMI experienced greater gender dysphoria than those who had not. The amount people invested in their appearance did not differ between transgender groups before and after gender-affirming medical interventions.

Whether transgender people had begun gender-affirming medical interventions, the amount people invested in their appearance or the importance of it, low mood and the amount people held transphobic beliefs all uniquely accounted for appearance anxiety. This means transgender individuals who had gender affirming medical interventions may have lower appearance anxiety and those who valued their appearance as more important, were more anxious about their appearance. Those with lower mood and who think more negatively about being trans because of stigma, may have higher appearance anxiety.

Conclusions: Transgender individuals who had not had gender-affirming medical interventions had more appearance anxiety than those who had begun gender-affirming medical interventions, and cisgender participants. The authors think those who have begun gender-affirming medical interventions may be more against the idea of living as the sex they were assigned at birth, compared to those who have not begun gender-affirming medical intervention, may be currently doing this. Ongoing stigma and difficult transphobic experiences may explain the finding that transgender groups anticipated transphobia similarly. Clinicians and services may want to ensure transgender people who want to receive gender-affirming medical interventions have access to them. Currently there are increased

waiting times in the NHS and 90% of transgender people report delays when accessing transition-related NHS care. A limitation of this research is that participants with a visible disability or a diagnosis of an eating disorder were unable to participate. This means authors are unable to conclude the findings apply to those with a visible disability too. A strength of this research is this is the first study of its size to investigate differences in appearance anxiety in transgender people who have and have not had gender-affirming medical interventions. The authors also consulted with experts who were transgender to get support with language and to ensure they used appropriate questionnaires. The authors were able to use this guidance to sensitively discuss a model, applied to those with a visible difference, that had not previously been applied to the transgender population.

Connecting Narrative

The following is a reflective account of the process of conducting the three research projects presented in this thesis.

Initially, I was unsure which area I was most interested in, having previously published systematic reviews on topics including Post-traumatic Stress Disorder interventions in children, adolescents and young adults and the prevalence of psychosis in the Global South. In my personal life I hold values of compassion, inclusivity and curiosity rather than judgement. It was important the research, and my professional life generally, reflected this. The connecting theme of these three projects is: improving clinical psychology practice and research in communities that continue to face stigma. My desire to add to the evidence base of clinical psychology research with communities that have historically been overlooked, to benefit the people and clinical psychology practice led me to these particular projects.

In my systematic review of the literature, I was drawn to focus on those with eating disorders and who are neurodivergent (ADHD comorbidity). Historically those who are neurodivergent or have co-morbidities have been excluded from research, in society, neurodivergent people often face additional barriers and ableism. In my service improvement project, I amplified the voices of veterans of the Global Majority when accessing a service who recognised they were predominantly hearing from White British veterans. In my theory-driven research project, I explored appearance anxiety in transgender individuals who had and had not begun gender-affirming medical intervention; given most of the literature on appearance anxiety is focused on cisgender populations. This group faces increasing stigma and transphobia, leading to concerns about appearance and safety.

Systematic Review of the Literature

Over a placement working in an eating disorder service, I learned about how clinical psychology research has been applied to clinical psychology practice. I saw the work of the PEACE pathway in action, which had devised clinical considerations and recommendations when working with those with eating disorders and who were neurodivergent; with Autism Spectrum Conditions. I became more curious about those with eating disorders and ADHD, another neurodevelopmental condition. I also learned how important it was for clinical psychology research to be inclusive of those who are neurodivergent and have comorbidities, as this reflects the people we support in clinical psychology practice.

Service Improvement Project

I was excited to embark on this project focusing on increasing access and experience, as equitable access to healthcare services regardless of race is important to me as a Black Trainee Clinical Psychologist.

Seeking approval from the relevant NHS Trust departments was particularly lengthy and difficult. There were concerns about being seen to be ‘racially profiling’ when recruiting Global Majority participants only, and approval was only granted under the condition we sent recruitment information to everyone accessing the service (including White veterans who were ineligible to participate). Subsequent changes to requirements further complicated the approval process. I learned the importance of increasing staff confidence and understanding of relevant legislation and procedures regarding race and diversity in clinical psychology research. Rather than doing less of projects regarding race and diversity because of the unforeseen hurdles, it highlighted the need for increased research, to increase familiarity.

Recruitment was also a challenge. Those of the Global Majority have verbalised a lack of confidence and trust in healthcare research, in part due to atrocities during Colonialism. Given Global Majority veterans spoke about not trusting the service initially and it taking time to build rapport, it is perhaps unsurprising that I struggled to recruit as many participants as I had originally set out to, through emails and a research poster. I learned the importance of targeted and adapted recruitment in clinical psychology based on the different communities you are trying to engage; rather than expecting a 'one size fits all' approach to work. I reflect on the privilege of being able to give voice to the Global Majority veterans who participated.

Theoretically Driven Research Project

I reflect on my initial passion and sensitivity about bringing a model of 'visible difference' to a new population. I enjoyed hearing from the Experts by Experience that I spoke to early in the process. This reaffirmed to me the importance of holding in mind the views of all stakeholders when conducting clinical psychology research.

Throughout this research, I held onto the words of the trans and gender-non-conforming community; this included the many positive words I received about the meaningful impact of the work and the negative feedback about the project, and the history of institutions associated with the project. I learned the importance of acknowledging difficult reputations that institutions have when conducting clinical psychology research, and providing space for justified anger and concern in response to that. I continue to be grateful for all in the trans and gender-non-conforming community who trusted me by sharing their experiences of discrimination, identity and anxiety. The unexpected amount of qualitative responses we gratefully received, proved difficult to analyse for this thesis as a mixed methods paper as planned, but will be a helpful addition to the literature as a separate paper. I

recognise the value of qualitative research, in giving depth and richness to participants' experiences, and this cannot be understated.

Reflections for the future

I have gained confidence and competence in using core research skills, to answer a range of research questions on different clinical psychology topics. This thesis brings together theories used in clinical psychology research and practise, with a focus on attending to and amplifying the voices of marginalised communities and their experiences.

The past three years have undoubtedly encompassed challenging times, with unforeseen hurdles among the way. Holding onto 'my why' has been key; a drive to contribute to the evidence base of clinical psychology research and practice, ensuring the evidence base encompasses a range of experiences and is best placed to support the diverse populations clinical psychology serves. I hope to bring the resilience, and increased confidence in advocacy that I brought to completing this thesis, to any clinical psychology practice or research I embark on in the future.

Acknowledgements

Firstly, thank you to God: How great thou art. I can do all things through Christ who strengthens me. The only thing that has kept me, over the three years, was God's grace. In the hardest of moments I know "it was then that I carried you [you carried me]." I pray for endless humility and grace.

To all those who have participated in the research, who trusted me with your stories and your experiences, thank you. Without you, your efforts and your time, this would not be possible; I send you my deepest gratitude.

To my supervisors at the Oxford Institute of Clinical Psychology Training and Research; Dr Matthew Hotton, Dr Joanna Adams, Dr Myra Cooper and particularly Dr Reena Vohora as my course tutor too, thank you all for your expertise, guidance and patience. Thank you Dr Alastair Pipkin, Dr Clare Churchman, Devanshi Sharma, Jade Harvey and all the charities who shared for your support and help.

To my friends in the 2021 cohort: I am so grateful for all your support, kindness and humour through the various challenges these last three years have brought. You have made this experience more bearable, for that I am thankful.

To my friends in London and beyond: Thank you for holding me in your thoughts, hearts and prayers. Thank you for giving me grace to bury my head when I needed to and turn up and share memories with you all when I could. "There is nothing I would not do for those who are really my friends. I have no notion of loving people by halves, it is not my nature."

To mum and dad (and grandparents): Thank you. "If I can see further, it is only by standing on the shoulder of giants." Thank you for everything; for raising me up to stand on this 'doctorate-shaped' mountain, for all your sacrifices and endless prayers.

To my three brothers (TAP) and wider family: Thank you all. For helping me put things into perspective, for your never-ending belief in me and for allowing me to be a ray of sunshine to you and the kids when I was able to. Thank you for holding me down when I was not. “How lucky am I to have something that makes saying goodbye so hard.” It takes a village.

To all those who have supported and cared for me, were a rock for me, and reminded me of balance throughout my education journey from Ms C. Westlake and Mr A. Dyer to beyond. I am so grateful for you all and the lifelong lessons, and memories, I carry with me.

To God be the glory; God is so so good

Appendix 1.1 Author guidelines for Internal Journal of Eating Disorders

DETAILED MANUSCRIPT PREPARATION GUIDANCE

Title Page

The Title Page of the manuscript should comprise:

- A brief informative title containing the major keywords. The title should not contain abbreviations.
- All co-author details, including affiliation and email address, and ORCID identifier where possible.
- Up to ten keywords.
- If published already as a preprint, a link to the preprint server.
- An author contributions statement that succinctly indicates how each author contributed to the piece of work, using the CRediT “Contributor Roles Taxonomy”. Author contributions are also required within the submission form of both original and revised submissions.
- Any applicable statements relating to our ethics and integrity policies, such as:
 - data, materials and code availability statement
 - funding statement or other acknowledgements of support
 - conflict of interest disclosure
 - permission to reproduce material from other sources

Abstract

The Abstract provides a succinct summary of the article content. The recommended format and word limit vary by article type.

Structured abstracts have a recommended maximum of 250 words and should be organized into: **Objective**: state the primary purpose of the article, or major question addressed in the study. **Method**: indicate the sources of data, give brief overview of methodology, or, if it is a review article, how the literature was searched and articles were selected for discussion. For research-based articles, briefly note study design, how participants were selected, and major study measures. If your data are based on a preregistered study, provide the preregistration number or link. **Results**: summarize the key findings. **Discussion**: indicate main clinical, theoretical, or research applications/implications.

Main Text File

The main text file should be in MS Word and include the following content and recommended formatting:

- Main body, formatted as Introduction, Method, Results, and Discussion, as recommended by the International Committee of Medical Journal Editors (ICMJE) (J. Pharmacol. Pharmacother. 2010, 1, 42–58). Exceptions to these formatting recommendations include Commentaries, Forum articles, and Perspective articles.
- A Public Significance statement (< 70 words) that explains why this research is important and is written in plain English for a general, educated public.
- Figure titles should be supplied as a complete list in the text.

References

Please refer to article types regarding the number of permissible references.

This journal offers Free Format submission and authors may submit using their preferred referencing style, as long as consistency is applied throughout the manuscript.

The typesetter will apply the American Psychological Association reference style on manuscripts accepted for publication. If authors wish, they may review reference style guidelines prior to submission.

Tables

Tables should include a descriptive title and, if needed, footnotes defining abbreviations and any other information critical to interpreting the data shown.

Figures

Figures should have legends (and if needed, notes) that succinctly describe the information being displayed. Figures should be uploaded in the highest resolution possible.

Supporting Information

Supporting Information is information that is supplementary and not essential to the article but provides greater depth and background. Examples include more detailed descriptions of therapeutic protocols, results related to exploratory or post-hoc analyses, and elements otherwise not suitable for inclusion in the main article, such as video clips, large sections of tabular data, program code, or large graphical files. It is *not* appropriate to include in the Supporting Information any text that would normally go into a Discussion section; all discussion-related material should be presented in the main article.

Authors should mention the Supporting Information in the text of the main article to provide context for the reader and highlight where and how the supplemental material contributes to the article.

Appendix 1.2: PRISMA checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	10 and 11
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	11
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	12 and 13
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.	12
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	55
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.	12 and 13
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.	13
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.	13
	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.	13
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.	13
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.	56 and 57

Section and Topic	Item #	Checklist item	Location where item is reported
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)).	13
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	N/A
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	N/A
	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.	13
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	N/A
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	N/A
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	13
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	13
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.	14
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	14
Study characteristics	17	Cite each included study and present its characteristics.	15
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	39
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.	N/A
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	43
	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.	22-24
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	N/A
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	39

Section and Topic	Item #	Checklist item	Location where item is reported
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	22-24
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	43
	23b	Discuss any limitations of the evidence included in the review.	46
	23c	Discuss any limitations of the review processes used.	46
	23d	Discuss implications of the results for practice, policy, and future research.	44 and 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.	12
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	12
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	N/A
Competing interests	26	Declare any competing interests of review authors.	N/A
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 review.	N/A

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71

Appendix 1.3: SRL Search strategy

Eating adj2 disorder* OR “anorexia nervosa” OR “bulimia nervosa” OR “binge eating disorder” OR “other specified eating disorder” OR “other specified feeding or eating disorder” OR “eating disorder not otherwise specified” OR “EDNOS” or “OSFED”

AND

“Attention deficit hyperactive disorder” OR “attention deficit disorder” OR “ADHD” or “ADD”

Limits:

Year of publication: 2013-2024

Appendix 1.4. SRL Data extraction example form

Citation	Country	No. of participants		ED diagnosis	How ED and ADHD diagnosed	Co-morbidities	Setting	Previous treatment	Demographic information	Symptoms of ED	Symptoms of ADHD	Additional symptoms reported	Treatment	Effects of treatment
Citation	Country	Study design	Study duration	Number of participants	Population/ED diagnosis	How ED and ADHD diagnosed	Setting	Age	Gender	Prevalence	Odds ratio	Key differences	Treatment offered	Effects of treatment

Appendix 1.5: Table showing additional comorbidities and symptoms reported in treatment studies

<i>Case studies and case series</i>					
Citation	Co-morbidities	Additional symptoms reported	Previous treatment	Outcome measures	Other
Bejerot et al. (2019)	Depression, sleep disorder, OCD, GAD, PD(Panic Disorder) with Agoraphobia, SAD (Social Anxiety Disorder), Development Coordination Disorder, Hypomania, Paediatric	Tics, motor skill difficulties* *at time of ADHD and AN symptoms		N/R	N/R

autoimmune
neuropsychiatric disorders,
conversion disorder,
psychosis, schizotypal
personality syndrome.

Benard et al. (2016)	N/R	N/R	Methylphenidate 30mg per day was delivered from 6-11 years old which had a satisfactory efficacy in treating ADHD symptoms.	N/R	N/A
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Bhat et al. (2013)	Depression, trichotillomania	Involuntary hair pulling: 3-4 times daily but later progressed to 8-10 episodes for the past 2 months, feelings of worthlessness, insomnia and weight loss.	N/R	N/R	N/R
Bourgou et al. (2019)	N/R	N/R	N/R	N/R	N/R
Bresnahan et al. (2016)	Depression, anxiety	Suicidal intent, depressive symptoms revolved around self-image, patient reported anhedonia, feelings of guilt and worthlessness.	N/R	N/R	N/R

Ghosh et al. (2021)	N/R	N/R	N/R	N/R	N/R
Gunes et al. (2016)	N/R	N/R	N/R	Clinical Global Impression- Improvement Scale (CGI-I)	N/R
Keshen and Ivanova (2013)	Case 1: No substance misuse or PD; Case 2: Alcohol abuse disorder and traits of BPD; Case 3: No substance- related disorder, traits of BPD, insomnia, mood instability	Case 2: Inability to self- soothe, difficulty being alone; Case 3: emotional liability, difficulty self-soothing	N/R	BMI	N/R

Mestermann et al. (2023)	Depression, schizophrenia	Depressive symptoms like low and dysphoric mood and anhedonia. Affective liability with frequent crying and anger, permanent feelings of guilt and insufficiency. Social withdrawn from peer contacts, sleep disturbances with frequent night awakenings. Anxiety symptoms like social phobia, performance and separation anxiety. Deliberate self-harm.	N/R	N/R	N/R
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<p>Pennell et al. (2016)</p>	<p>Case 1: Receptive expressive communication disorder, Oppositional Defiant Disorder (ODD), Separation anxiety disorder, Social anxiety disorder. Case 2: Generalised Anxiety Disorder</p>	<p>Difficulties with language; psychoeducational assessment aged 7 indicated difficulties with complex language, reasoning and problem solving.</p>	<p>Case 1: Recommended patient remain on lisdexamfetamine 30mg.</p>	<p>Case 1: Followed by the outpatient eating disorder program for a year prior to this admission due to 11.8kg weight loss following initiation of lisdexamfetamine 40mg daily for ADHD</p>	<p>N/R</p>
<p>Prucoli et al. (2023)</p>	<p>Tic disorder</p>	<p>Motor tics which fluctuated when he was increasingly</p>	<p>N/R</p>	<p>N/R</p>	<p>N/R</p>

exacerbated impacting his neck and upper limbs. Other symptoms include low self-esteem, emotional liability with restlessness and irritability.

Shear et al. (2021)	N/R	Irritability.	Case 2: Inpatient medical hospital treatment included feeding through nasogastric tube, discontinuation of her prescribed stimulant medication because of concern that it might	N/R	Case 1: On discharge, it was recommended to continue with medication and she continues treatment with outpatient providers.
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suppress her appetite and interfere with weight gain. Fluoxetine for symptoms of anxiety and irritability, titrated up to 40mg per day. Gained 3kg during medical stay. After discharge, the patient began outpatient treatment but caloric restriction and overexercising resumed, causing	Discharge discussions addressed the risks and benefits of careful use of psychostimulant medication. Discussions with outpatient psychiatrist about importance of following the patient's weights
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further weight loss. 6
year treatment with
methylphenidate for
ADHD.

and
prescriptions
carefully as
those with ED
may be
vulnerable to
misuse of
medication.
Case 2: Patient
continued
treatment with
outpatient
therapist and
psychiatrist, 1
year after

discharge was
maintaining
healthy range
and required no
attention
inpatient
treatment.

Appendix 2.1. Author Guidelines for Journal of Traumatic Stress

Before you submit, you will need:

- Your manuscript: this should be an editable file including text, figures, and tables, or separate files—whichever you prefer. All required sections should be contained in your manuscript, including abstract, introduction, methods, results, and conclusions. Figures and tables should have legends. Figures should be uploaded in the highest resolution possible. References may be submitted in any style or format, as long as it is consistent throughout the manuscript. Supporting information should be submitted in separate files. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers, and the editorial office will send it back to you for revision.
- An ORCID ID, freely available at <https://orcid.org>. (*Why is this important? Your article, if accepted and published, will be attached to your ORCID profile. Institutions and funders are increasingly requiring authors to have ORCID IDs.*)
- The title page of the manuscript, including:
 - Your co-author details, including affiliation and email address. (*Why is this important? We need to keep all co-authors informed of the outcome of the peer review process.*)
 - Statements relating to our ethics and integrity policies, which may include any of the following (*Why are these important? We need to uphold rigorous ethical standards for the research we consider for publication*):
 - data availability statement

- funding statement
- conflict of interest disclosure
- ethical standards statement
- patient consent statement
- permission to reproduce material from other sources
- clinical trial registration

Important: the journal operates a double-blind peer review policy. Please anonymize your manuscript and supply a separate title page file.

Main Text File

Please ensure that all identifying information such as author names and affiliations, acknowledgements or explicit mentions of author institution in the text are on a separate page.

The main text file should be in Word format and include:

- A short informative title containing the major key words (the title should not contain abbreviations).
- Abstract
- Up to seven keywords
- Main body, formatted as:
 - Introduction
 - Method
 - Participants
 - Procedure

- Measures
- Data Analysis
- Results
- Discussion
- References
- Tables (each table complete with title and footnotes)
- Figure legends: Legends should be supplied as a complete list in the text. Figures should be uploaded as separate files (see below).

Reference Style

Journal of Traumatic Stress uses APA reference style. However, because *JTS* offers Free Format submission, you do not need to format the references in your article until the revision stage when your article is more likely to be accepted.

Appendix 2.2. Staff information video transcript

So I just wanted to start the recording.

And hopefully this will be sent to the members of the team at the Op Courage service.

Hello, my name is Ray and I'm a training psychologist from the University of Oxford.

I'm working with the service to conduct a service improvement project and this is going to be part of my doctoral training, but we'll be working with the service to make improvements and think about recommendations.

I'm sending this video to you to briefly explain the projects that will be completing and the name of the project is the experiences of veterans from an ethnic minority background seeking support at Op Courage and working alongside Clare Churchman who I'm sure you all know and Devanshi Sharma as well. There are other members of the project team, who at the University of Oxford.

Why is the project being conducted?

So we know that people from a minority ethnic background have additional barriers to seeking psychological support in the civilian population and in veterans.

It's thought that ethnicity may impact how someone is treated both within the Ministry of Defence and within the National Health Service. OpCourage want to learn more about the experiences of veterans from a minority ethnic background and who seek psychological therapy within the service.

So the aim of the project will be to explore the experiences of veterans from minority ethnic background, who access psychological support and their experiences of treatment.

We're trying to identify existing areas of strength and also put forward recommendations to the service to improve the experience of veterans from a minority ethnic background.

We'll be interviewing veterans, but we'll also be interviewing staff, which is what I'm here to talk to you about more specifically, and hopefully this will allow us to learn more about staff's experiences as well and what staff think is going well and things that could be improved.

So who will be recruit? And how many people?

We will be conducting focus groups with staff and hoping to recruit a minimum of 10 to 12 therapists who have clinical contact with veterans.

This includes assistant psychologists, clinical psychologists, CBT therapists, and counsellors within the team.

So anyone who has clinical contacts delivering some kind of psychological therapy.

That focus group will be conducted on the 19th of June 2023 during the CPD slot on a Monday morning, and we're gently encouraging as many staff as possible to attend the CPD slot. If necessary and if this is feasible, we will aim to hold an alternative focus group on

another day, but it may be more tricky to organise diaries given that this is a prearranged CPD slot for the team.

What will participation involve?

So everyone will be sent a consent form and this information video transcript, largely the information that I'm giving you now ahead of the group ahead of the focus group on the 19th of June and will be asked to return the consent form before the Focus group takes place.

If you're happy to participate, the focus group will be held remotely via Microsoft Teams for the duration of the CPD slot.

So for roughly an hour and there's no preparation required before the focus group, there are no right or wrong answers and more than anything as a project team, we are interested in the opinions of the staff members at the service.

So you'll be invited to participate in the focus group comprising of a series of questions and which is all about your experience of treating veterans and also thinking about how easy it might be for veterans to access the service.

You do not need to identify as being from a minority ethnic background in order to participate in the focus group as a member of staff. The veterans who we will be interviewing individually will need to identify as an ethnic minority in order to give us their opinion on their experience as an ethnic minority veteran accessing support. The focus groups will be

recorded and the audio recording will be saved on a secure NHS Berkshire device on the OneDrive system. The recording will be accessible by myself, who will be holding the focus group. Once the focus group has been transcribed, the recording will be deleted.

All attempts will be made to remove any identifiable information and all attempts will be made to anonymise the focus group transcript as much as possible.

What will happen after I participate?

So themes will be generated from the content of the discussions held in the focus group to help us understand the experiences of staff treating people from an ethnic minority background and also themes will be generated from interviews with ethnic minority veterans, again to help us understand their experiences.

So we'll hopefully be able to get the experiences of staff and the points of view of staff, and also the points of view of veterans within the service.

There will be quotes that are used in the write up of the project that support the themes and names won't be assigned to those quotes. The quotes will hopefully illustrate the themes that have been generated.

As I've said, there is an additional stage that's happening alongside this or additional aspect of the project, which is the individual interviews with veterans and the email has been sent to all veterans in the service and those who identify as being from an ethnic minority have been invited to contact the project team.

All veterans have been given this information sheet, and once a veteran expresses interest, they will be given a consent form.

If any of the veterans on your caseload who identify as being part of an ethnic minority who have any questions regarding the project and direct these questions to you in your sessions, please do encourage them to contact myself.

My email address will be on the information sheet and that's being sent to you as well, but it's rayanne.johnbaptistebastien@berkshire.nhs.uk.

And all veterans who consent to participate will be contacted for individual interviews.

And like I said, themes will also be generated to illustrate their experiences.

Again, there are no right or wrong answers for staff or veterans we're just trying to get a sense of what the experience has been like for people, things that are going really well and things that staff and veterans, things could be improved. In terms of disseminating the findings, I'll attend another team meeting, and I'll be summarizing the findings from the Staff Focus Group, and also from the interviews with veterans.

And I'll be presenting that to the team with the findings and the recommendations, and those recommendations will have come from the staff and the veterans.

There will also be a formal report written up with the aim of being published as well, and, as I've already said, the quotes will be included in that, but no names of staff or veterans will be included and all attempts will be made to anonymize that data.

If you have any questions, do you please email me further, you should be able to find me on the NHS directory, but it's Rayanne.JohnBaptisteBastien@berkshire.nhs.uk

I will come and speak to the team on the 5th of June to answer any questions that people have.

In the meantime, if you have any questions do feel free to email me.

Appendix 2.3:NHS Trust's Audit and IG department SIP approval

RE: 'SE - Experiences of Black and Minority Ethnic veterans seeking support at the Complex Treatment Service.' (9855)

Claire Newton <Claire.Newton@berkshire.nhs.uk>

Mon 10/9/2023 4:24 PM

To:Clare Churchman <Clare.Churchman@berkshire.nhs.uk>;Rayanne John-Baptiste Bastien <rayanne.john-baptistebastien@hmc.ox.ac.uk>

Cc:Reena Vohora <reena.vohora@hmc.ox.ac.uk>;Devanshi Sharma <Devanshi.Sharma@berkshire.nhs.uk>;Gemma Hayward <Gemma.Hayward@berkshire.nhs.uk>

Hi Clare,

Thank you for clarifying this. I am happy for this project to continue as a service evaluation. I will be in occasional contact to check that it is progressing as planned.

Kind regards, Claire.

Claire Newton
Clinical Effectiveness Facilitator

Berkshire Healthcare NHS Foundation Trust

Working from home: Please contact via Microsoft Teams or email (claire.newton@berkshire.nhs.uk)

(Clinical Audit Department, London House, London Road, Bracknell, Berkshire RG12 2UT)



RE: Service Improvement Approval (9855)

Latifa Aina <Latifa.Aina@berkshire.nhs.uk>

Thu 3/30/2023 4:27 PM

To: Claire Newton <Claire.Newton@berkshire.nhs.uk>; Clare Churchman <Clare.Churchman@berkshire.nhs.uk>

Cc: Reena Vohora <reena.vohora@hmc.ox.ac.uk>; Devanshi Sharma <Devanshi.Sharma@berkshire.nhs.uk>; Rayanne John-Baptiste Bastien <rayanne.john-baptistebastien@hmc.ox.ac.uk>

Hi Claire,

Clare and team have now completed applicable IG checks.

Many thanks,
Latifa Aina
Information Governance Manager

Appendix 2.4. SIP Recruitment poster

OpCOURAGE

NHS

The Veterans Mental Health
and Wellbeing Service

South East Region

Service Improvement Project

The experiences of veterans from a minority ethnic background seeking support at OpCourage

We are wanting to hear from veterans from the following backgrounds:

- Black Caribbean or African
- Asian Indian
- Asian Bangladeshi
- Asian Other
- Mixed White and Black Caribbean
- Mixed White and Black African

What does participating involve?

A single Microsoft Teams interview online lasting up to 1 hour and 30 minutes.

You will be asked about seeking mental health support at OpCourage and your experience of any groups or 1-to-1 therapy at OpCourage

**Any questions or to participate contact:
rayanne.johnbaptistebastien@berkshire.nhs.uk**

Appendix 2.5. Veterans' information sheet



The experiences of veterans from minority ethnic veterans with the OpCourage Southeast Veterans Mental Health and Wellbeing Service: A Service Improvement Project

PARTICIPANT INFORMATION SHEET

1. Introductory paragraph

You are being invited to take part in a service improvement project. Before you decide, it is important for you to understand why the project is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. It is important that you ask us if there is anything that is not clear or if you would like more information. Please also take time to decide whether you wish to take part.

2. Why is this project being conducted?

We know that people from a minority ethnic background have additional barriers to seeking psychological support in the civilian population. In veterans, it is thought ethnicity may impact how someone is treated both within the Ministry of Defence and within the National Health Service (NHS).

The OpCourage South East Veterans Mental Health and Wellbeing Service want to learn more about the experiences of veterans from a minority background who seek psychological therapy with OpCourage. This service improvement project will be supported by a trainee psychologist from the University of Oxford. The aim of the project will be to explore the experiences of veterans from minority ethnic backgrounds accessing psychological support and their experiences of treatment received. We aim to identify existing areas of strength and put forward recommendations to the service to improve the experience of veterans from an ethnic minority accessing therapy. We will also interview staff members at the OpCourage South East Veterans Mental Health and Wellbeing Service to learn more about staff's experience and staff's suggestions for improvements.

Berkshire NHS Trust is the data controller responsible for your personal data. Berkshire NHS Trust will process your personal data for the purpose of the project outlined above in furtherance of your care.

3. Why have I been invited to take part?

We have invited all veterans receiving psychological therapy from OpCourage South East Mental Health and Wellbeing Service and who self-identify as being from the following backgrounds to participate in this project:

- Black Caribbean
- Black African
- Black other
- Asian Indian
- Asian Pakistani
- Asian other
- Mixed: Black Caribbean and white
- Mixed: Black African and white
- Other

4. Do I have to take part?

No. It is up to you to decide whether to take part in the service improvement project. You can elect to join and participate in the project. After joining, you may withdraw any information you have contributed to the project up until a week after your interview has taken place, after which time your interview will be |

Audio recording of your interview will be accessible by the interviewer and will be transcribed with names removed. The audio recording of the interview will then be deleted once the interviewer has transcribed the interview.

The Op Courage project team will have access to the anonymised transcriptions from the interview so that themes can be explored between veterans' experiences. The anonymised transcripts of interviews will be stored for the duration of the project and then deleted. We anticipate the project duration being completed by September 2024.

The clinicians at the OpCourage [South East](#) Veterans Mental Health and Wellbeing Service will be presented with the anonymised findings of the project at completion of the study.

9. Will the findings be published? Could I be identified from any publications or other project outputs?

The findings from the project will be written up in an anonymised project report which will form part of the trainee psychologist's thesis. The project report may be published but you will not be identifiable.

We would like your permission to use direct quotations, which will be anonymised in any project report or presentation. We will ask you for your consent for this along with your consent to record the interview.

A copy of the Trainee thesis (which contains the project report) will be deposited both in print and online in the [Oxford University Research Archive](#) where it will be publicly available. A copy of the written project report will also be retained by the NHS Berkshire trust.

10. Who has reviewed this study?

This Service Improvement Project has received approval from the Clinical Audit Team at Berkshire NHS Trust.

11. Who do I contact if I have a concern about the project or I wish to complain?

If you have a concern about any aspect of this study or wish to make a formal complaint, please contact opcourage@berkshire.nhs.uk and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with.

12. Further Information and Contact Details

If you would like to discuss the project with someone beforehand (or if you have questions afterwards), please contact:

<p>Rayanne John-Baptiste Bastien (in the first instance) Trainee Clinical Psychologist Oxford Institute of Clinical Psychology Training and Research rayanne.johnbaptistebastien@berkshire.nhs.uk</p>	<p>Dr Clare Churchman Service Lead for OpCourage Psychological Therapies OpCourage South East Veterans Mental Health and Wellbeing Service, Berkshire Healthcare NHS Foundation Trust Clare.churchman@berkshire.nhs.uk</p>
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anonymised and it will not be possible to identify which interview responses are yours. To withdraw please advise us of this decision. Joining and/or later withdrawing will have no impact to your psychology treatment under the OpCourage [South East](#) Veterans Mental Health and Wellbeing Service.

5. What will happen to me if I take part in the project?

- All participants will be given an informed consent form to sign to confirm they give permission to participate in the project.
- The interview will take place with a trainee psychologist working with the service and will be online via Microsoft Teams lasting up to 1 hour and 30 minutes. It is a single interview.
- The interview will cover questions about your experience of learning about the OpCourage service, your psychological assessment process, and your experience of receiving psychological treatment from this service.
- You will be asked open questions, and we would be grateful if you give as much information as you want to for every question. Your interviewer will manage the duration of the interview.
- You can choose to pause or stop at any time, or if you would not like to answer a question you can say so.
- The interview will be recorded to enable the interviewer to transcribe the discussion. We will obtain a separate consent from you to record the [interview](#) but you would be unable to participate in the project if you do not want to be recorded.

6. What are the possible disadvantages and risks in taking part?

We hope that there are minimal disadvantages and risks in taking part. Your treatment with OpCourage will not be affected in any way.

Given that you will be asked questions about your experience of accessing and receiving treatment from the service, including what has been helpful and what some of the barriers might have been when accessing support for your mental health, some people might find these discussions are potentially upsetting. You will be able to discuss your participation with your therapist if you'd like to.

We will use direct quotations in the report and when presenting back to the service, but it will not include names and we will make all reasonable effort to ensure your views remain unidentifiable.

7. Are there any benefits in taking part?

By participating in this project, this project will lead to a better understanding of the experiences of veterans from a minority ethnic background when accessing and receiving treatment at OpCourage. It is hoped the recommendations will lead to a better experience for other veterans from a minority ethnic background related to accessing and receiving treatment. Taking part in the study will not impact your treatment.

8. What information will be collected and why is the collection of this information relevant for achieving the project objectives?

Identifiable data, such as email correspondence with you and the audio recording of your interview, will be stored securely via password protected folders on the NHS Berkshire computer systems for the duration of the project and will then be deleted. Your consent forms will be included in your health record although what you say in interview will not be stored in your record.

Appendix 2.6. Consent form for participation



Consent to take part in OpCourage Service Improvement Project

Purpose of the Project: To learn more about treatment experiences of veterans from minority ethnic backgrounds at OpCourage service. We hope to present recommendations to the service to improve the experience of veterans from an ethnic minority and highlight what has been helpful. We also will aim to learn more about the experiences of staff supporting veterans at the service and explore any recommendations staff have. We will present recommendations made by veterans and staff to the service to aid in service improvements and developments.

I confirm that I have read and understand the information sheet for the above Service Improvement Project. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw until a week after my interview. After this time, I understand my interview will have been anonymised.

I understand how to raise a concern or make a complaint.

I agree to take part in the interview.

	<i>dd / mm / yyyy</i>	
Name of participant	Date	Signature
	<i>dd / mm / yyyy</i>	
Name of person taking consent	Date	Signature

Appendix 2.7. Consent form for recording



Interview Recording Consent Form

The purpose of this digital recording is to provide the OpCourage Service team working with Berkshire Healthcare with an audio or audio-visual record of your interview.

The recording will be stored securely via password protected folders on the NHS Berkshire computer systems. This will be accessed by the team member who conducted the interview only. Once the names have been removed or changed, the recordings will be deleted and only the project team will have access to the transcriptions.

We cannot record you unless you give us explicit consent to do so. If you do not want to be recorded you will not be eligible to take part in the project to learn more and improve experiences of veterans from an ethnic minority.

By signing this form I confirm that the project team have fully explained what they would like to record, the reasons for this and how the recordings will be used, therefore I understand that:

- The recording will be kept confidential and stored securely and used only for the purpose(s) specified above.
- As the recording is specifically for accurately transcribing the content of the interview (written out like a script of the interview), I can withdraw my consent or ask for my recordings to be deleted up until a week after my interview by contacting opcourage@berkshire.nhs.uk or by telling the practitioner at my interview that I no longer wish to take part in the project.
- The recordings will be accessed by interviewer only before being deleted a week later after the interview is transcribed verbatim.
- Although the recordings will not form part of my patient record, this consent form will.
- The recordings will not be made available to the worldwide web or other sharing medium. They will be held securely on NHS systems.
- And that I agree to the use of any quotes I make during the interview for the outcome report, any presentations or publication that may come from this project. I understand that all reasonable efforts will be made to de-identify my data before such publication.

I am signing this consent form as (please tick):

- The Participant
- A person with legal designation to consent on behalf of the participant

Full Name: _____

Signature: _____

Date: _____

- I give permission for you to contact me again to clarify information (optional)

Appendix 2.8. SIP Focus group and interview schedules

Staff focus group

1. How do you feel OpCourage is doing in engaging veterans of the Global Majority for mental health treatment?
2. What do you think OpCourage is doing well when engaging veterans of the Global Majority?
3. Are there any improvements that can be made by the OpCourage to better engage veterans of the Global Majority?
4. How do you feel the service is doing in treating veterans of the Global Majority?
5. What are some challenges or barriers you see in treating veterans of the Global Majority? Follow up: Are there any specific adaptations you've used in your intervention with a veteran of the Global Majority that has been helpful?
6. In your experience, do you think there are any factors that enhances treatment when working with veterans of the Global Majority?
7. Are there any specific adaptations you think could be applied when treating veterans of the Global Majority at OpCourage?
8. Is there anything else we have not spoken about that you would like to add?

Veterans of the Global Majority

1. What has been your experience of accessing support for your mental health from OpCourage specifically?
2. What would you say was important in supporting you to seek mental health support from OpCourage?

3. Were there any barriers in seeking support for your mental health at OpCourage? If so, what were some of the barriers?
4. What do you think might prevent other veterans from minority ethnic backgrounds from seeking support for their mental health at OpCourage?
5. What do you think would be helpful in making it easier for veterans from minority ethnic backgrounds to access mental health support in the future?
6. What has been your experience of psychological treatment within the CTS?
7. Are there particular aspects of treatment have been helpful in treatment sessions so far?
8. What changes do you think would be helpful to improve your experience of treatment in the service?
9. Is there anything that you would like to talk about that I have not asked you about?

Appendix 2.9. Additional Quantitative analysis

Age

The mean age of GM veterans receiving support at TILS was 41.52 years (9.21), compared to a mean of 46.07 (12.12) for White British veterans. There was a statistically significant difference in age at referral to TILS between GM veterans and White British veterans, $t(194.44)=-5.13, p < .001$. The mean age of GM veterans receiving support at CTS was 43.86 (8.15), compared to a mean of 47.32(10.95) for White British veterans. There was a statistically significant difference in age at referral to CTS between GM veterans and White British veterans, $t(74.84)=-2.44, p = 0.017$.

Biological sex

There were 151 referrals at TILS for female veterans, which included sixteen (11%) GM females and 78 (52%) White British females. One female veteran identified as White Other. Ethnicity was not stated for 56 female veterans. There were 1640 referrals for male veterans. Referrals included 116 (8%) GM males and 950 (58%) White British males. Twelve (7%) male veterans identified as White Other and four (2%) as White Irish. Ethnicity was not stated for 560 (34%) male veterans.

There were 23 referrals at CTS for female veterans, which included two (4%) GM females and fifteen (74%) White British females. Ethnicity was not stated for six (26%) female veterans. There were 350 referrals for male veterans. Referrals included 42 (12%) GM males and 224 (64%) White British males. Five (1%) male veterans identified as White Other and one (3%) as White Irish. Ethnicity was not stated for 78 (22%) male veterans.

Appendix 2.10. Additional quotes from GM veterans' interviews

Theme	Subtheme	Transcript
Racial trauma in the military	Different support for GM vs	My experience from the other service was diabolical, it was not very good.
	White veterans	It was very segregated It was so unfair, because it just reassured all the little things other people say, you know, we [black people] get treated differently, we have to take longer to be believed when there's an ailment I'm thinking, well, shouldn't it be the same treatment for everybody?
Racial trauma in the military	Acknowledgement of racial trauma and differences	my PTSD was triggered mostly due to racial discrimination, so within the service and you know what I've seen in the military, so it was quite a complex complicated issue. But most of all, it was the racial bit looking back they had distorted my thinking or my thinking was distorted

for some time. I knew I had to operate in this environment alone by myself

As much as I had a background of being discriminated, being racially abused, having gone to the DCMH and been in an environment where they didn't look at me, personally as a black person, a person of colour, a person with a different language and then all that kind of stuff, which I thought they didn't pay attention to it.

There's usually a kind of connotation all the time about veterans of colour. They've had racial discrimination while in the service.

Stigma

Shame about MH needs

most of my friends and you know people around me they understand I am dealing with PTSD and stuff like that, but it's not something I will be proud of to openly discuss amongst them.

Cultural side to it, which is, you know, just coming from a culture that

		doesn't openly accept or discuss things like that as opposed to, my Caucasian colleagues, where it's much more openly accepted and discussed. So it's like dying in silence and not wanting anybody, to know, or tell anybody.
Stigma	MH needs a weakness in military	if I'm being fair, if you wake up and tell somebody I'm feeling low. The comments you get are very nasty and you will not even want to do that because you're more or less referred to as being weak.
Lack of knowledge of MH services	Other veterans' experiences	Yeah if it is a good experience that they have, then it's going to give you high hopes. If it's a bad experience, then you're gonna be in two minds thinking if you're going to be there [at OpCourage] or not. <hr/> [DCMH] never told me anything, but it was because I heard it from someone else.

		<p>when they asked me certain information about where I'm going, I said I heard about TILS. So can you refer me to this</p>
		<p>I think I did bump into some individuals from the team before which was very helpful because I think they said Ohh yeah, we will continue. You can get in touch with us, there's also self referral.</p>
Lack of knowledge of MH services	Increasing knowledge of OpCourage within military	<p>It was like a little get together for Veterans or people leaving. So all these services normally turn up there.</p> <p>I think for me it's just knowing that the service is there because well, if you don't know that there is this particular service that you can turn to.</p> <p>The only downside of it would be having to have numerous assessments which to me sometimes isn't very helpful.</p>
Effortful referral	Multiple referrals and repetitive assessments	<p>Coming from the Army, with what I'm struggling with having to like, go over it time and time again each time</p>

you meet a different practitioner, they start an assessment, even if they have already had more or less something on the system which tells them exactly what the issue is, which gives them a background history of the whole thing, you still have to go through an assessment and then the same questions keep popping up.

Go over and over it, and for me personally, you know some of those memories, some of the things I have to talk about, they are very distressing and I would rather not just go into it

Things went around in circles then, I had to be referred back to TILS again and then get an assessment again.

But they [family] kept pushing and they felt that I needed the help and that no matter what it takes, they were gonna keep pushing.

Effortful referral	Family support	<p>It was my family, saying, look, you're struggling and you need help.</p> <p>Whether you accept it or not, you're struggling and you need help.</p>
		<p>They were trying to make me, you know, attend another appointment and all that which was quite good.</p> <p>Not in the sense of enticing you just, you know, but telling you what has worked before or what have the results been. That will encourage me to attend more.</p>
Flexibility of treatment	Additional time to build rapport	<p>You know, you just take your time.</p> <p>We keep seeing you if it comes to the number, well then we would always keep thinking about, how much more we can keep supporting you even though you've used up your sessions, we're not just going to try and get rid of you. We would still work with you as much as possible.</p>
		<p>They see you 10 times and the 10 times is up. And then that was it.</p>

So it was good to know I've got a
longer opportunity.

Appendix 2.11. Additional quotes from staff focus group

Theme	Subtheme	Transcript
Adaptations for therapists	Consider pace of work to build trust	<p>takes a bit more time at the beginning. But hopefully it'll be really important to open up that trust and rapport again to actually do the work.</p>
		<p>the rapport building, which I think just in kind of my experience so far, working with veterans from kind of the BAME background it has been really interesting to explore with them, trust and often where they might be particularly, you know, racial discrimination or racism that they faced.</p> <p>To kind of build that trust and rapport to support them and then help them link in with other relevant services and sometimes be the advocate as well.</p> <p>we do lots of work around building rapport and trust when you have an interpreter on the line as well I think there's a little bit of pressure that you need to get things done, whereas you know less opportunity for chitchat and getting to know people.</p>
Adaptations for therapists	Addressing race	explicitly naming the different elements that are coming up when you're working with racial

difference and really acknowledging that on behalf of the clients.

mistrust or that power imbalance might be there, but it might be really hard for them to know why or to put it into words and sometimes like just taking that step and sort of asking like, how do you feel about this?

How do you feel about the fact that we're coming from really different backgrounds, really different places and things can sort of open that up and actually create that trust?

one thing that we're really thinking about is how we as a team prioritize that as a target to actually start asking these questions

having those discussions quite early on

if we're naming it early as well, it's easy to bring that up, isn't it -to think about the cultural links rather than perhaps just plucking it out thinner at the end and going, oh, you mentioned this, let's try this. No, it's more meaningful. It's just kind of a thread throughout your treatment.

		there's something about taking the time to, I think, have these discussions about someone's identity.
Cultural sensitivity	Understanding mental health	<p>understanding in terms of their culture, how do they view mental health? I think that's one of the things we came across just understanding what for them does mental health look like and what are their ways of gauging support</p> <p>working with veterans who you know in terms of their ethnicity come from Ghana and then served in the UK forces, it's been interesting to understand again, you know some of their culture, you know with what their sources of support look like</p> <p>the limited understanding of mental health</p> <p>even if English as a language is not a barrier, using words might be a barrier because the client might say one thing and I have one interpretation of that, whereas they have a different interpretation of that</p> <p>trying to really take the time to understand the clients and understand where they're coming from.</p> <p>trying to really take the time to understand the clients and understand where they're coming from.</p>
Cultural sensitivity	Western vs culturally appropriate	I think it's really important and actually maybe it would really benefit the service to look at some models that have been sort of developed with or for

		communities from different ethnic backgrounds to our own.
Sharing knowledge	Conversations within the team	being able to share the knowledge I think is really important.
		There's a bit of thought about making the team RP [reflective practice] more EDI informed one way or another
		sharing like interesting papers or things we've read is nice as well to share resources on what could be helpful.
		we used to do some dissemination of research and just like key headings, so I don't know if that's a possibility even within the EDI working party or team meetings to be able to just give headlines of maybe a paper that's based around cultures diverse models or adaptations to CBT
		My hope is that as we're having more conversations and as the EDI working party are doing such a great job, it will be brought more and more into to our conversations and thinking
		sharing the information and when we work with, you know, cases that are complex or maybe different in any way, it's really, really helpful to have these

		CPD sessions where maybe we can bring a client's case and discuss it with the team
	Conversations within the team	I think using that [reflective space] to have these discussions that we can learn off one another or at least a safe place where people can feel comfortable
	Safety	to speak about these things.
Reaching out to communities	Networking in community spaces	an individual or a couple of individuals where they could go on a regular basis or they get to know the elders of the community
		I guess one thing that comes to my mind is I think about what we've learned in that progress with the Gurkha kind of work with the, the work we do to engage the Community. But I think about that in terms of how we can reach out to other ethnic minorities as well.
		we can we use that same strategy to try and intercept community hubs
		maybe it's about stepping up and and I don't know, dropping leaflets in a Gurdwaras and Buddhist temples and mosques and places like that to make them aware that, hey, you know, we know that there's veterans here. This is our service.

		I'm thinking about other communities that perhaps we should be increasing access to
Reaching out to communities	Increasing diversity	<p>I've not once worked with anyone who's more ethnically diverse</p> <p>I don't know if it's a reflection of Hampshire, but also probably there's multiple barriers.</p> <p>I think one of the things I think has come in our conversation is making that [service user forum] more a representative space.</p> <p>I think one of the things I think has come in our conversation is making that move a representative space.</p>
Well-intentioned but hesitant staff		<p>within the EDI work so far it feels like maybe something that we've not got a grip on or a clear kind of working stream</p> <p>it feels like it's something we want I think.</p> <p>Definitely some of us, to get more of a grip on, but it does feel at the moment like we maybe don't have that clear, clear sense of what we're doing and how and what the direction for that is going to be.</p> <p>we all know that we're intending well</p> <p>we haven't got to kind of clear direction yet</p>

Appendix 3.1. Author guidelines for Body Image Journal

The journal publishes

1. Full-length articles of the following types:

- **Original research articles** (studies that do not fit one of the other types listed below)
- **Systematic reviews / meta-analyses** (please follow PRISMA checklist:
<http://www.prisma-statement.org/>)
- **Methodological / protocol articles** (articles that explicate an innovative research study design in which data are currently being collected)
- **Unexpected / null results articles** (articles grounded in extant theory that have a sound methodological design and adequate statistical power and are analyzed appropriately, but primary hypotheses were not supported)
- **Scale development / adaptation articles** (multi-study/sample articles that investigate the psychometric properties of a newly developed or existing scale relevant to body image; scale translations and applications to different samples are welcome)
- **Replication studies** (consistent with Open Science initiatives, we encourage articles that replicate--or fail to replicate--existing body image research)
- **Theoretical review articles** (typically invited; however, if you have an idea, propose it to the Editor-in-Chief)

Please choose the article type that is the best fit for your article (we realize that some articles may fit into more than one type).

While full-length articles have no explicit limits in terms of numbers of words, tables/figures, and references, an article's length must be justified by its empirical strength and the significance of its contribution to the literature.

2. Shorter communications of the following types:

- **Brief research reports** (articles with a more defined and/or limited focus than original research articles)
- **Ideas worth researching** (articles that propose a novel idea for advancing research on body image)
- **Methodological innovations** (articles that discuss the application of a novel statistical approach to the study of body image)

Guidelines for short communications are ≤ 3000 words from Introduction through Discussion and ≤ 30 references. There are no limits on tables and figures

3. Themed special issues

- **Theoretical special issue** (a collection of review articles from experts in the body image field that focus on a relevant body image topic)
- **Empirical special issue** (a collection of empirical articles that offer novel insights into a relevant body image topic)
- **Data set special issue** (a collection of empirical articles that emerge from the same, large data set; each article within the issue must be incremental and overlapping data between articles must be minimal)

We especially encourage special issues that bridge body image theory and research with other disciplines and social science constructs.

Please contact Editor-in-Chief to propose your idea for a special issue.

If you are proposing a theoretical or empirical special issue and it is accepted, you will be the Guest Editor(s) and work with the Editor-in-Chief (or an Associate Editor) and our Special Issue Journal Manager to develop and prepare your special issue.

If you are proposing a data set special issue, then Guest Editors will be appointed that manage your issue and they will work with the Editor-in-Chief (or an Associate Editor) and our Special Issue Journal Manager.

For each paper type, we would like authors to know that we are impartial regarding the source of citations and we recommend against excessive string citations.

Submission checklist

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address

All necessary files have been uploaded:

Manuscript:

- Include keywords
- All figures (include relevant captions)
- All tables (including titles, description, footnotes)
- Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print

Graphical Abstracts / Highlights files (where applicable)

Supplemental files (where applicable)

Further considerations

- Manuscript has been 'spell checked' and 'grammar checked'
- All references mentioned in the Reference List are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- A competing interests statement is provided, even if the authors have no competing interests to declare
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

Use of inclusive language

Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one

individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns ("clinicians, patients/clients") as default/wherever possible to avoid using "he, she," or "he/she." We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. When coding terminology is used, we recommend to avoid offensive or exclusionary terms such as "master", "slave", "blacklist" and "whitelist". We suggest using alternatives that are more appropriate and (self-) explanatory such as "primary", "secondary", "blocklist" and "allowlist". These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

Reporting sex- and gender-based analyses

Reporting guidance

For research involving or pertaining to humans, animals or eukaryotic cells, investigators should integrate sex and gender-based analyses (SGBA) into their research design according to funder/sponsor requirements and best practices within a field. Authors should address the sex and/or gender dimensions of their research in their article. In cases where they cannot, they should discuss this as a limitation to their research's generalizability. Importantly, authors should explicitly state what definitions of sex and/or gender they are applying to enhance the precision, rigor and reproducibility of their research and to avoid ambiguity or conflation of terms and the constructs to which they refer (see Definitions section below).

Definitions

Sex generally refers to a set of biological attributes that are associated with physical and physiological features (e.g., chromosomal genotype, hormonal levels, internal and external anatomy). A binary sex categorization (male/female) is usually designated at birth ("sex assigned at birth"), most often based solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms "sex" and "gender" can be ambiguous—thus it is important for authors to define the manner in which they are used.

Article structure

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Material and methods

Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If

quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

Results

Results should be clear and concise, describing the findings and their associated statistical basis. Consider the use of tables and figures for statistical details.

Discussion

This section should present the theoretical, empirical, and applied implications of the results, not simply repeat the findings. The study's limitations should be explicitly recognized. A combined Results and Discussion section may be appropriate.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendix 3.2. TDRP Recruitment poster

The Oxford Institute of Clinical Psychology Training and Research
Does appearance anxiety differ between cisgender individuals and transgender individuals before and after medical transition? A mixed-methods study.
 Ethics Approval by University of Oxford, Reference: R8794/RE002

VOLUNTEERS NEEDED: ONLINE RESEARCH ON HOW TRANSGENDER AND CISGENDER PEOPLE FEEL ABOUT THEIR APPEARANCE

WHAT ARE WE STUDYING?

- We want to learn more about how transgender people feel about their appearance and whether this differs from cisgender people. We also want to learn if appearance anxiety changes after any medical transition.
- We hope this will help understand how best to provide psychological support for transgender people as there is little research on this.

WHAT WOULD I NEED TO DO?

You will complete a series of online questionnaires and may answer some open-ended questions exploring how people feel about their appearance
 The research is expected to take **no longer than 20 minutes**

Looking for participants who are:

- 18 years old or older
- Able to read and write in English
- Live in the UK
- Self-identify as **transgender including non-binary** (not begun any gender-affirming medical transitions) OR
- Self-identify as **transgender including non-binary** (begun all gender-affirming medical transitions you currently want) OR
- Self-identify as **cisgender**

If you have begun gender-affirming medical interventions eg: hormones within the past year or have a visible disability or difference in appearance due to a medical condition unfortunately you are not eligible to participate.

HOW DO I FIND OUT MORE?

Please follow the link or scan the QR code to participate.
 If you would like more information, please contact
 rayanne.john-baptistebastien@hmc.ox.ac.uk. There is no obligation to take part.

Thank you for your time!



Appendix 3.3. Combined Information and consent form

Does appearance anxiety differ between cisgender individuals and transgender individuals before and after medical transition? A mixed-methods study.

CUREC Approval Reference: R87941/RE002

General Information

Anxiety about our appearance is really common and some will attempt to reduce anxiety by avoiding places or covering up parts of their body. Researchers have found that experiences of stigma can lead to more anxiety and behaviours to reduce anxiety about appearance. We know that having medical transitions can reduce this anxiety. We want to further explore differences in appearance anxiety between cisgender people and transgender individuals before and after any medical transition. We also want to explore what reduces anxiety to improve mental health treatment for transgender people.

The aim of this research is to learn more about the extent to which transgender people experience anxiety about their appearance, and whether this differs from cisgender individuals. We also want to learn more about whether levels of anxiety experienced by transgender individuals vary between different stages of medical transition. We hope this will help us develop better psychological therapies for transgender people following transition, as there is currently very little research in this area.

We appreciate your interest in participating in this online study. You are invited to take part if you identify as one of the following groups:

- cisgender (i.e. your gender identity matches your sex assigned at birth)
- transgender including non-binary (i.e. your gender identity is different from your sex assigned at birth) and have not yet had any gender affirming medical intervention including hormones and surgery
- transgender including non-binary (i.e. your gender identity is different from your sex assigned at birth) and you have had all gender-affirming medical interventions you want at present. You will need to have begun gender-affirming medical interventions at least one year ago.

All participants must be aged 18 years and over and live in the United Kingdom.

Unfortunately, those who have a visible physical difference or disability are not eligible to take part. This is because they may experience stigma related to their appearance for reasons other than their gender identity.

Participants with a diagnosed eating disorder are also not eligible to take part. This is because they may experience anxiety related to their appearance due to their eating disorder.

Does appearance anxiety differ between cisgender individuals and transgender individuals before and after medical transition? A mixed-methods study.

Ethics reference number: R87941/RE001

Participants who are not able to read/write in English will be excluded from the study.

Participants who have begun a gender-affirming medical intervention and are currently seeking further gender-affirming medical interventions or are sure they want further gender-affirming medical intervention in the future are also not eligible to take part. This is because we want to compare anxiety about appearance in those who have not yet received gender affirming medical interventions and those who, at the time of completing the study, have begun all gender affirming interventions they currently want.

Please read through this information before agreeing to participate (if you wish to) by ticking the 'yes' box below.

You may ask any questions before deciding to take part by contacting the researcher (details below).

This research is being run by Rayanne John-Baptiste Bastien who is attached to the Oxford Institute for Clinical Psychology Training and Research at the University of Oxford. This research is being completed under the supervision of Matthew Hotton (Principal Investigator) and Alastair Pipkin and in collaboration with Northamptonshire Healthcare NHS Foundation trust.

Your participation should take about 20 minutes in total. After reading the information sheet, you will be invited to give your consent to begin the study. Demographic information about age, ethnicity, gender identity and sexual identity will be collected. There are two parts to the study. Section one involves completing a maximum of 6 questionnaires about your appearance, anxiety and, where relevant, your gender identity. Section two invites you to give more detailed answers to questions. You can give as much detail as feels appropriate for the question.

No background knowledge is required. The data will be used to explore how cisgender and transgender people feel about their appearance.

Do I have to take part?

No. Please note that participation is voluntary. If you do decide to take part, you may withdraw at any point for any reason before submitting your answers by pressing the 'Exit' button/ closing the browser. Your progress will not be saved.

At the end of the study, you can click 'done' to send your responses and complete the study. You will not hear back from the researchers or be invited to do this again later once you have completed the survey.

As the information you submit is anonymous, meaning we are unable to identify your answers from someone else's, you will not be able to withdraw your answers after you submit them.

How will my data be used?

We will not collect any data that could directly identify you. Your IP address will not be stored. We will take all reasonable measures to ensure that data remain confidential.

The responses you provide will be stored in a password-protected electronic file on University of Oxford secure servers and may be used in academic publications and presentations. Research data
Does appearance anxiety differ between cisgender individuals and transgender individuals before and after medical transition? A mixed-methods study.

Ethics reference number: R87941/RE001

will be stored for 3 years after publication or public release of the work of the research.

Who will have access to my data?

Only the research team will have access to the data.

The findings from the research will be written up in a thesis and later in an academic publication. A copy of the thesis will be deposited both in print and online in the Oxford University Research Archive where it will be publicly available to facilitate its use in future research.

Who has reviewed this research?

This study has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee. (Ethics reference: **R87941/RE002**).

Who do I contact if I have a concern or I wish to complain?

If you have a concern about any aspect of this research, please speak to Matthew Hotton at matthew.hotton@hmc.ox.ac.uk and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Medical Sciences Interdivisional Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

Email: ethics@medsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House, Churchill Drive, Headington, Oxford OX3 7GB

Please note that you may only participate in this survey if you are 18 years of age or over.

I certify that I am 18 years of age or over and live in the United Kingdom

If you have read the information above and agree to participate with the understanding that the data you submit will be processed accordingly, please tick the box below to start.

Yes, I agree to take part

Does appearance anxiety differ between cisgender individuals and transgender individuals before and after medical transition? A mixed-methods study.

Ethics reference number: R87941/RE001

Appendix 3.4. Psychometric properties for measures

The Cronbach's alpha for the 16 item Social Appearance Anxiety Scale was .952.

The Cronbach's alpha for the 20 item Appearance Schemas Inventory-Revised scale was .864.

The Cronbach's alpha for the eight item Patient Health Questionnaire (PHQ8) scale was .882.

The Cronbach's alphas for the five item Internalised Transphobia Stigma subscale and the nine item Anticipatory Stigma Scale were .850 and .866 respectively.

The Cronbach's alpha for the 18 item Utrecht Gender Dysphoria Scale-Gender Spectrum was .872.

The Cronbach's alphas for the ten item Body Coping Appearance Fixing subscale and the eight item avoidance subscale were .837 and .768 respectively.

Appendix 3.5. Copy of Ethical approval

R87941/RE004: Does appearance anxiety differ between cisgender individuals and transgender individuals before and after medical transition? A mixed-methods study - Amendment Approval

MSD Ethics <ethics@medsci.ox.ac.uk>

Tue 4/9/2024 10:41 AM

To: Rayanne John-Baptiste Bastien <rayanne.john-baptistebastien@hmc.ox.ac.uk>

Cc: Matthew Hotton <matthew.hotton@hmc.ox.ac.uk>

Dear Rayanne,

Thank you for submitting a request for an amendment to project R87941, which has been reviewed on behalf of the Medical Sciences Interdivisional Research Ethics Committee (IDREC).

I am pleased to inform you that your request to:

- revise the advertising poster, to remove cisgender participants and transgender people who have not started gender-affirming medical interventions from the 'looking for participants who are' section.

has been judged as meeting appropriate ethical standards, on the basis of the information provided to the IDREC, and approval has been granted, under reference R87941/RE004.

Please note that this email is your sole approval.

Best wishes
Leah



researchsupport.admin.ox.ac.uk

Mrs Leah Butts
Research Ethics Administrator, Medical
Sciences

Research Services | Research
Governance, Ethics & Assurance Team
University of Oxford, Boundary Brook
House, Churchill Drive, Headington,
Oxford OX3 7GB

T: 01865 616575 E:

Appendix 3.6. TDRP Battery of measures (Only non-copyrighted measures have been included)

Social Appearance Anxiety Scale (Hart et al., 2008)

Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale

1= Not at all, 2= Slightly, 3=Moderately, 4= Very, 5= Extremely

I feel comfortable with the way I appear to others	1	2	3	4	5
I feel nervous when having my picture taken	1	2	3	4	5
I get tense when it is obvious people are looking at me	1	2	3	4	5
I am concerned people would not like me because of the way I look	1	2	3	4	5
I worry that others talk about flaws in my appearance when I am not around	1	2	3	4	5
I am concerned people will find me unappealing because of my appearance	1	2	3	4	5
I am afraid that people find me unattractive	1	2	3	4	5
I worry that my appearance will make life more difficult for me	1	2	3	4	5
I am concerned that I have missed out on opportunities because of my appearance	1	2	3	4	5
I get nervous when talking to people because of the way I look	1	2	3	4	5
I feel anxious when other people say something about my appearance	1	2	3	4	5
I am frequently afraid I would not meet others' standards of how I should look.	1	2	3	4	5
I worry people will judge the way I look negatively.	1	2	3	4	5
I am uncomfortable when I think others are noticing flaws in my appearance.	1	2	3	4	5
I worry that a romantic partner will/would leave me because of my appearance	1	2	3	4	5
I am concerned that people think I am not good looking	1	2	3	4	5

Patient Health Questionnaire-8 (Kroenke et al., 2009)

Over the last two weeks, how often have you been bothered by any of the following problems? (circle one number on each line)

Select not at all, several days, more than half the days or nearly every day.

1. Little interest or pleasure in doing things
2. Feeling down, depressed or hopeless
3. Trouble falling or staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself, or that you are a failure, or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed. Or the opposite-being so fidgety or restless that you have been moving around a lot more than usual

Internalised and anticipatory transgender stigma scales (Rendina et al., 2020)

Internalised stigma subscale

	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
<i>I feel guilty because I am transgender</i>				
<i>I feel I am not as good a person as others because I am transgender</i>				
<i>Being transgender makes me feel unclean</i>				
<i>Being transgender makes me feel that I'm a bad person</i>				
<i>Being transgender is disgusting to me</i>				

Anticipatory stigma subscale

	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
<i>Most people who are transgender are rejected when others find out</i>				
<i>Some people who know I am transgender have grown more distant</i>				
<i>Most people are uncomfortable around someone who is transgender</i>				
<i>I worry that people may judge me when they learn I am transgender</i>				
<i>I have been hurt by how people reacted to learning I was transgender</i>				
<i>People have physically backed away from me when they learn I am transgender</i>				

<i>Some people act as though it's my fault I am transgender</i>				
<i>I have stopped socialising with some people because of their reactions to me being transgender</i>				
<i>When people learn I am transgender, they look for flaws in your character</i>				

Utrecht Gender Dysphoria Scale – Gender Spectrum (McGuire, et al., 2020)

Directions: For each question, select the response that best describes how much you agree with each statement. Note: Assigned sex means the sex you were assigned at birth and affirmed gender is the gender you currently identify with.

1 means “Disagree completely,” 2 means “Disagree,” 3 means “Neither agree nor disagree,” 4 means “agree,” 5 means “agree completely”

1. I prefer to behave like my affirmed gender	1	2	3	4	5
2. Every time someone treats me like my assigned sex I feel hurt.	1	2	3	4	5
3. It feels good to live as my affirmed gender.	1	2	3	4	5
4. I always want to be treated like my affirmed gender.	1	2	3	4	5
5. A life in my affirmed gender is more attractive for me than a life in my assigned sex.	1	2	3	4	5
6. I feel unhappy when I have to behave like my assigned sex.	1	2	3	4	5
7. It is uncomfortable to be sexual in my assigned sex.	1	2	3	4	5
8. Puberty felt like a betrayal.	1	2	3	4	5
9. Physical sexual development was stressful.	1	2	3	4	5
10. I wish I have been born as my affirmed gender.	1	2	3	4	5
11. The bodily functions of my assigned sex are distressing for me (I.e. erection, menstruation).	1	2	3	4	5
12. My life would be meaningless if I would have to live as my assigned sex.	1	2	3	4	5
13. I feel hopeless if I have to stay in my assigned sex.	1	2	3	4	5
14. I feel unhappy when someone misgenders me.	1	2	3	4	5
15. I feel unhappy because I have the physical characteristics of my assigned sex.	1	2	3	4	5
16. I hate my birth assigned sex.	1	2	3	4	5
17. I feel uncomfortable behaving like my assigned sex.	1	2	3	4	5
18. It would be better not to live, than to live as my assigned sex.	1	2	3	4	5

Appendix 3.7. Assumptions of Analyses

Analysis of covariance (ANCOVA)

Assumptions for the analysis of covariance of a continuous dependent variable, having a categorical independent variable with two or more independent groups, a continuous dependent covariable and independence of observations was met. The assumption of linearity was met by visually inspecting the grouped scatterplot. The assumption of homogeneity of regression slopes was met and the assumption of normally distributed data was met by reviewing the normality test and visually inspecting the residuals.

Multilinear regression

The assumption of normality was met by visually inspecting the histogram with a superimposed normal curve and a P-P plot. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.40. The assumption of linearity was tested using partial regression plots and homoscedasticity was assessed by visual inspection of a plot of studentized residuals versus unstudentized predicted values. There was an absence of multicollinearity. There were no outliers. Cooke's Distance values were used to determine if any cases were unduly influential; there were no Cook's Distances values above 1, an appropriate cut off (Cook & Weisberg, 1983).

ANCOVA and Quade's ANCOVA- Between transgender groups

All the assumptions for the ANCOVAS were met, where they were used. For example linear relationships between the dependent variables, homogeneity of regression slopes and

homoscedasticity. When assumptions were not met, a non-parametric Quade's ANCOVA was used, controlling for depression.

Mann Whitney U

All assumptions related to study design were met; that there is a continuous dependent variable: avoidance. The independent variable is a categorical variable with two groups: transgender people before gender-affirming medical intervention and transgender group with those who have begun gender-affirming medical interventions. There are independence of observations.