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A Call for the Urgent Need to Investigate the Gender-Based Disparity in Obesity Care in the United Kingdom

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Abstract

Objectives: 26.4% and 26.2% of men and women respectively live with obesity in the United Kingdom. But more women with obesity in the United Kingdom seek care than men in similar condition. The reason for this gender disparity is unknown. This paper, therefore, is a call for scientific investigations to be carried out to find answers to the determinants of gender disparity in obesity care in the United Kingdom.

Study design/Methods: This is a narrative review and by using the keywords “obesity in the United Kingdom”, “obesity care in the United Kingdom”, “gender disparity in obesity care” and “gender disparity in obesity care in the United Kingdom”, evidence was searched from the international literature to include 42 articles from 13 sources to this paper.

Result: Determinants of gender disparity in the United Kingdom are unknown but there are possible reasons as discovered from other settings such as the psychological factors- Gender Role Conflict or the Drive for Muscularity. Other possible factors include, discrimination and stereotyping, or in the case of surgery, the relegation of its importance as “vanity” and/or “valueless”, and the fear of surgery which is considered too risky.

Conclusion: A qualitative study is highly recommended that would be headed by the collaboration of an evolutionary psychologist with special interest in male psychology and health behaviour, and a patient-centred obesity and metabolic care clinician or surgeon to effectively identify and understand the determinants behind the gender disparity in obesity care in the United Kingdom.

Keywords: Obesity Care, Gender Disparity in Obesity Care, Obesity in the United Kingdom, Bariatric Surgery, Ozempic and Monjaro, Bariatric Surgery

Introduction

Globally, men have a negative attitude to help-seeking behaviours than women despite the similarities in prevalence rates of some diseases for both genders, especially in obesity and obesity-related conditions ^[1]. For instance, bariatric Surgery offers an effective solution to obesity ^[2], and according to a study presented in the 2024 Annual Scientific Meeting of the American Society of Metabolic and Bariatric Surgery, Bariatric surgery proves to be the most significant and most sustained weight loss intervention, even better than the Glucagon-like peptide-1, otherwise known as GLP-1 medications such as Ozempic and Wegovy medications ^[3]. Unfortunately, while there is a significant number of studies on the socio-ecological determinants of disparities, including age and race on bariatric and metabolic surgeries, the interlinked complex factors, both inherent and environmental as defined by psychology, society, culture and social interactions influencing these determinants, especially in the United Kingdom are still widely unknown ^[4-6]. This is a gap that needs to be addressed and therefore, this narrative review would be accomplished by achieving the following aim and objectives:

Aim: to identify the evidence of gender disparity in obesity care in the United Kingdom and recommend the need for the qualitative analysis of identifying the factors influencing this disparity.

Objective 1: to discuss the urgent need to address the worsening epidemiology of obesity in the United Kingdom

Objective 2: to identify the gender disparity whilst discussing obesity care in the United Kingdom.

Objective 3: to recommend the possible use of qualitative research to effectively cover the gaps identified in Objective 2.

While achieving these aim and objectives, we will discuss the prevalence of obesity based on gender in the UK, its complications, its public health implications and the current interventions to addressing obesity.

Methods

This is a narrative review that involves the use of keywords to search for articles. This search was in two phases. Phase one was to search for the appropriate database to use as the sources of articles to be included in this study.

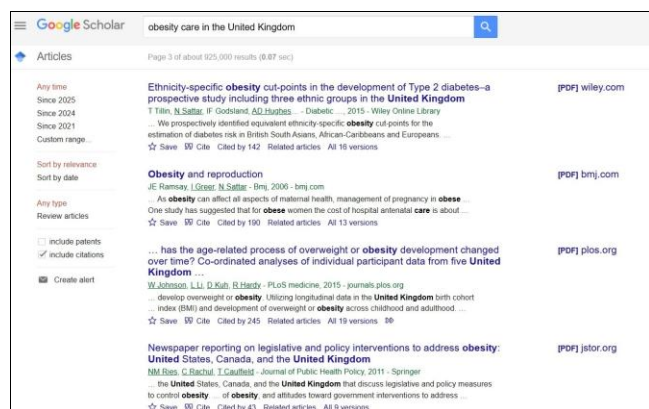


Fig 1: The Search for Academic Databases through Google Scholar

The keyword “Obesity care in the United Kingdom” was searched on Google Scholar. On the google Scholar search result interphase, the website names in blue on the right side or the publishers’ names on the extreme right of the green text that begin with Author(s’) name(s) just beneath the article title in blue are the identified databases that were selected as potential sources of articles for this paper as shown in Figure 1. The first 50 pages of this Google Scholar search result produced 12 Academic databases as illustrated in Table 1. The second phase of article search involves the search of each of the four keywords “obesity in the United Kingdom”, “obesity care in the United Kingdom”, “gender disparity in obesity care” and “gender disparity in obesity care in the United Kingdom” through each of the 12 academic databases discovered in phase one and Google Search Engine to make it a total of 13 sources. Therefore, total of 717 articles were found, but a final number of 42 included in this study as illustrated in Table 1.

Table 1: Databases identified, and Articles searched and Included in this paper

Databases	Articles Found	Articles Included
British Medical Journal	90	5
Cambridge University Press	37	1
Grey Literature- Google Search Engine	4	4
Multidisciplinary Digital Publishing Institute	48	2
Nature	30	1
Oxford University Press	61	2
PLoS	40	2
Research Gate	95	5
Science Direct	51	4
Springer	75	5
Taylor & Francis	77	4

The Lancet	46	3
Wiley Online Library	63	4
Total	717	42

Summary of Search from Article finding to inclusion

717 articles were found after the phase 2 search was completed but 219 were duplicates and hence, eliminated to leave 498. A further 194 were themes on gender disparities that are not focused on obesity care and also eliminated to leave 304 articles. The 262 articles left are on obesity care themes and even on disparities in obesity care but did not adequately cover gender disparities and so, were eliminated. The final 42 articles were then included in this paper.

Discussion

Definition and Prevalence

The universally accepted definition of Obesity is the cutoffs of Body Mass Index, BMI, to reflect the risks of associated illnesses. These cutoffs strongly indicate the body-fat distribution to show the overweight and obesity status of individuals in a descriptive statistical form [7]. It is considered a chronic, progressive and relapsing disease with a rising global prevalence associated with increased morbidity and mortality and reduced quality of life [8]. According to the National Institute for Health and Care Excellence of the United Kingdom [9], Obesity is classified based on the Body Mass Index as measured by the weight of the person in Kilograms, divided by the Square of their height in Metre square, as shown in Table 2.

Table 2: BMI Classification according to NICE

BMI	Classification
18.5 – 24.9Kg/m ²	Healthy weight
25 – 29.9Kg/m ²	Overweight
30 – 34.9Kg/m ²	Obesity Class 1
35 – 39.9 Kg/m ²	Obesity Class 2
≥ 40Kg/m ²	Obesity Class 3

Obesity was considered a serious public health issue of state-wide importance in 2011 and afterwards, the prevalence only goes up continuously, year after year [10-11]. In 2023, 64% of adults aged 18 and over were estimated to be overweight or living with obesity, of which 26.2% were estimated to be living with obesity. In the same year, the prevalence of UK residents who were overweight or living with obesity was higher for males at 69.2% than for females at 58.6%; but similar in the adult population at 26.4% and 26.2% for men and women respectively [12]. Also, the prevalence of overweight and obesity increases with age, reaching its peak in the 55 to 64 years group at 72.8% and then drops to 32.4% in the 65 to 74 years and older groups [12]. Morbid obesity significantly carries a higher risk of chronic health disorders than the other lower classes of obesity. For instance, Type-2 Diabetes Mellitus, hyperlipidemia and Hypertension at first diagnosis of morbid obesity were each independently associated with an increased risk of death [13]. This also means a heavy disease burden on the public health system and the nation [14]. In the United Kingdom, it has been projected that the prevalence of morbid obesity would increase by 5%, 8% and 11% in Scotland, England and Wales respectively by 2035. This also means that by 2035, about 5 million people of the United Kingdom are forecast to be morbidly obese across these three countries, calling for urgency to swiftly act to

address this issue ^[15].

Obesity Complications

Despite the prediction of an overall rise in life expectancy to 8 years for males and 7 years for females by mid-21st century, the rising prevalence of obesity and obesity-related conditions would drive down this rate significantly ^[16]. Obesity is associated with several cancers such as the liver, endometrium, Kidney, gallbladder, lung, breast, colon and rectum, mouth, Oesophagus, Oropharynx and the prostate ^[17, 18]. Other ailments associated with obesity are Ischaemic heart disease, stroke, metabolic syndrome, non-alcoholic fatty liver disease, reproductive disorders, infertility, polycystic ovary syndrome, osteoarthritis, lower back pain, psychiatric disorders, complications in pregnancy, diabetes mellitus, chronic obstructive pulmonary disease, benign prostate hyperplasia, pulmonary embolism, deep vein thrombosis, hyperuricaemia/gout, gallstones and complications during and after surgery ^[19]. Obesity, especially the Class 3 type, significantly increases the risk of mortality in a comorbid state with some of these complications ^[15], making it a ticking time bomb that must be dealt with as an emergency.

Treatment and Prevention

Treatment and the prevention of obesity go hand in hand. For instance, those that are overweight are at risk of obesity and are usually advised to adopt behavioural interventions which are preventive towards becoming class 1 obese whilst interventional on account of no longer being overweight ^[8]. This is similar at all stages of obesity because a comprehensive approach which includes behavioural changes, pharmacotherapy and bariatric surgery are always advised and adopted in the treatment of Obesity ^[20]. But the actual challenge in the treatment of obesity is sustainability, this is because of the somatic complications usually associated with obesity management and that is why holistic approaches of several treatment plans are usually adopted ^[8]. Therefore, the summary of the treatment and prevention of Obesity are as follows ^[8, 20, 21]:

1. Behavioural and lifestyle changes which are dietary intake measures, weight control measures and physical activity. Table 3 illustrates the various behavioural and lifestyle changes ^[21].

Table 3: Various behavioural and lifestyle change interventions addressing Obesity

Strategies	Interventions
Dietary Intake	Include plenty of fruit and vegetables, meals based on potatoes, bread, rice, pasta and other food items consisting of high fibre and wholegrain varieties. Also, some milk and dairy foods or dairy alternatives; some lean meat, fish, eggs, beans and other non-dairy sources of protein and just small amounts of fatty foods or sugar-containing food items. High-salt-concentration containing food items should be avoided not to raise blood pressure.
Physical activities	Could be of moderate intensity such as brisk walking, cycling, recreational swimming or dancing; or it could be vigorous such as running, competitive sports or circuit training. Medical advice is recommended before any approach is adopted.
Weight control measures	This is usually achieved by joining weight loss or dietary control programmes. It is advisable for an individual to properly educate themselves on the best

practices that are not only safe, but also sustainable. Therefore, medical advice is greatly recommended before embarking on any weight loss journey. For instance, Fad diet programmes such as fasting and entirely avoiding some groups of food are not hygienic, clinically safe or appropriate. Overly restrictive food practices such as the intake of very low caloric diet, VLCD, rapid weight loss programmes or high-intensity exercise programmes are not sustainable and not safe.

2. Medicines. Oral medication such as Orlistat prevents about 33% of fats from eaten foods to be absorbed into the body, and in this way, weight loss is actualized. There are injectables with similar biochemical effects and they are Liraglutide (Saxenda), Semaglutide (Wegovy) and Tirzepatide (Monjaro). Semaglutide (Wegovy) is a glucagon-like Peptide-1 receptor agonist (GLP-1RA) which significantly reduces body weight by about 15% whilst simultaneously improving cardiometabolic risk factors and physical functioning if taken at a dose of 2.4mg once weekly. Tirzepatide (Monjaro) is the first dual glucose-dependent insulinotropic polypeptide (GIP)/GLP-1RA, that reduces body weight by more than 20% with improved cardiometabolic measures also. These new medications have immensely reduced the gap in the efficacy of medications and that of physical activity. Other medications as approved by the Food and Drug Administration of the United States of America are lorcaserin, phentermine/topiramate and naltrexone/bupropion ^[22].

3. Bariatric surgery: indicated in cases of BMI of 35Kg/m² and more; and especially when complications exist. Bariatric surgery has been shown to be associated with reduced risk of all-cause mortality ^[13] and as previously mentioned in the introduction section, it is also considered to be the most effective treatment modality of tackling obesity. Particularly in the United Kingdom, bariatric surgery has proven efficacy in immensely improving the lives of patients after surgery ^[23].

Gender disparity in Obesity care

Despite these unbelievable interventions with proven efficacies, men diagnosed with obesity seem to have less positive attitudes towards obesity care than women. This is not only the case in the United Kingdom as it is a global phenomenon as well ^[6, 24]. For instance, women are referred to community weight loss programmes by their General Practitioners nine times more than men in the United Kingdom; and out of the 1.3 million people attending weight loss programmes, only about 5% of the users are men. This is even so due to supported attempts because if left to only self-directed weight loss attempts, the statistics for men would be much less. Men are also less likely to receive treatment for obesity in routine clinical practice and are underrepresented in the clinical trials that are tailored towards weight loss interventions ^[25-27]. One of such treatments as earlier discussed is bariatric surgery, and in the United Kingdom, about 20-22% of patients that undergo the surgery are men ^[28]. The reason for this disparity is still widely unknown, but there are headways to explore that may help cover this gap. For instance, psychological factors such as Gender Role Conflict, GRC, or the Drive for Muscularity, DM, could play significant roles in this disparity ^[29]. Gender Role Conflict is a psychological state in which socialised gender roles have negative consequences on the person or others often characterized by the influence

of rigid, sexist or restrictive gender roles on personal restrictions, devaluation or the violation of others or self [29]. Also, the drive for Muscularity is the psychological phenomenon of a person's self-impression of their inadequacy of being muscular enough irrespective of their muscular mass or body fat [30]. Men have a negative tendency to seek health help than women because of their tendency to have a greater gender role conflict, GRC, than women, which may be further compounded by their drive for muscularity, DM [31, 32]. Therefore, GRC and DM have an inversely proportionate correlation to health-seeking behaviours; and men with higher GRC are at risk of increased self-stigma of seeking health help especially those who suffer from body image concerns, eating disorders and exercise-related behaviours [32]. And this could be the case with the gender disparity in obesity care. Tudor *et al.* (2020) [27] in their paper concluded that assisted help will reduce this gap in disparity. This assistance would also have to be supported with fact-based advice, delivered in social platforms that would heavily focus on physical activity and initiating mixed gender programmes at community levels as these programmes have shown that men were less likely than women to drop out of them. Would this be applicable to, for instance, a radical intervention like bariatric surgery? Qualitative research would help answer this question. Furthermore, are there clinical or socio-ecological factors uniquely influencing men alone to have this negative attitude towards seeking obesity care? In France and the Netherlands, patients with obesity who undergo bariatric surgery face discrimination and stereotyping [33]. This stems from a combined factors that are psychological, cultural and societal. Could this also be the same with the United Kingdom? Another example is, men with obesity that undergo bariatric surgery are said to be markedly more satisfied, scoring higher in psychological well-being as compared to women. And this is despite the significantly lower weight loss outcomes and increased complications rates that they encounter after surgery. Therefore, do these post-operative-associated factors contribute to keeping the other men with obesity away? [28] Qualitative research is, hence, paramount if these vital questions must be answered. In the United States, some studies suggest that there is more psychosocial distress experienced by women with obesity than men due to social and cultural pressures. Also, the male body types have a wider spectrum of what is culturally accepted as ideal, resulting to more comfort and convenience in being heavier. These two factors combined are a significant determinant to an "indifference" or "negative attitude" of men towards obesity care as they do not appreciate the consequences of morbid obesity being a serious health problem [34]. This outcome has been discovered in Australia as "physical appearance" was a much stronger motivation than "medical or health reasons" to seek obesity care, resulting to more women than men seeking interventions [35]. This disparity is even worse with weight loss surgery as "too risky procedure" was the hindrance to accepting surgical intervention [36]. In other studies, some men associate bariatric surgery with "vanity", perceiving it to be shallow and valueless [37]. In some settings, while women with obesity in almost all adult age groups and all classes of obesity take interventions seriously, the men only take it seriously after experiencing complications such as heart attack and stroke, which also often mean, men of much older adult age ranges [36].

The way forward (Qualitative Research)

Experts in Obesity care such as clinicians or metabolic care professionals or bariatric surgeons should develop a research design to identify and understand why this disparity exist, but they should not only be the professionals involved. To understand the scientific basis of comprehending gender disparities, a framework that would help understand the biological and evolutionary pattern of gendered behaviours is needed to execute any research to be carried out. Whether it is from the axis of the genetic drives to enhance reproductive effectiveness through aggression and empathy or the biological costs in reproduction between males and females that may lead to discrepancies in their reproductive and behavioural strategies, the related scientific model should be able to dig deep into the difference in perceptions and behaviours to a situation, in this case, obesity care between men and women [38, 39]. Therefore, Evolutionary Psychology expertise would be needed to collaborate with an obesity or metabolic conditions clinician to investigate the gender disparity in Obesity care in the United Kingdom [40].

Recommended investigation or Research type

Qualitative research would serve as an important methodologic tool to use in efforts to understand, inform and advance health equality and equity in the consumption of obesity care and services [41]. Also, qualitative research would create the platform for critical insight into the contextual subjective explanations of why this gender disparity exist in relation to how and where interventions could be implemented to inform practice [42]. As adopted from the qualitative studies in gender disparities by Dako-Gyeke and Owus [41] and Dy-Hollins and colleagues [42], a purposeful and convenient sampling technique should be utilized to recruit between 50 and 80 participants. These participants should be men with at least, class 1 obesity. The target sample is on the men with obesity who are not willing to go through obesity care. The three methods of care as outlined in the discussion of this paper- lifestyle changes, medications and surgery, should not be combined in one study, but each management method focused for a study. Bariatric surgery is particularly of interest, considering the low rate of male patients who go for it. Therefore, a sample size of 50 to 80 participants should be able to produce a target sample of at least 25 men. It is also important to increase the diversity of participants by involving respondents of different ethnicities and different age groups from 18 to 70 years, since the United Kingdom is a global society; therefore, predetermined and open-ended questions would be adopted in interviews. This project should be supervised by an evolutionary Psychologist and a patient-centred Obesity and Metabolic care professional. If bariatric surgery is the focus, then a bariatric surgeon should also head the research team that would investigate this gender disparity. The themes necessary to adopt in the interview instruments should be developed by these professionals themselves.

Conclusion

Obesity is a serious health issue in the United Kingdom which has been projected to worsen in Epidemiology, come 2035. This strongly indicate the urgent nature of obesity in the United Kingdom to prompt desperate measures in tackling it. While groundbreaking innovations in treatment

and care have incredibly shown effectiveness of tackling it, a gender disparity exists in the attitude of accepting these interventions. As crucial as addressing Obesity is in the United Kingdom, effectiveness of strategies may be stalled if this gender disparity is not investigated and addressed. It is therefore paramount to not only identify the determinants causing this disparity but to also extensively study the reasons why these determinants exist. The successful qualitative study of this disparity carried out by a collaboration of an evolutionary psychologist with special interest in male psychology and health behaviours, and a patient-centred obesity and metabolic care clinician, or even a bariatric surgeon, may prove effective in identifying these determinants to help shape policies that would effectively address obesity in the United Kingdom.

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