Does repeated trauma exposure increase the risk of obesity? A Systematic Review

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Abstract

Background: Obesity is highly prevalent among those who have experienced trauma. Evidence has suggested trauma to be an underlying risk factor for the development of obesity. However, such research is inconsistent and fails to differentiate trauma type and acknowledge trauma frequency. This systematic review reviewed studies pertaining to different types of trauma and obesity.

Methods: A systematic review relating to trauma exposure and obesity. Nine studies were eligible for inclusion. Ethical approval was obtained by the University of Buckingham's ethical committee.

Results: 9 studies were included in this review. All studies evidenced a relationship between BMI and trauma exposure. However results varies in terms of operating mechanisms. Most commonly, trauma was associated with eating psychopathology. Findings suggested that type of trauma may be more relevant than the chronicity of trauma in relation to the development of obesity.

Conclusions: Repeated trauma exposure may increase the risk of the development of eating psychopathology, on either end of the BMI spectrum, rather than obesity in isolation.

Introduction

Obesity as a national health challenge

2.8 million deaths per annum are attributed to obesity. Within the UK, 58% of women and 65% of men fall into overweight categories (House of commons, 2019). Research has acknowledged the prevalence of obesity among those who have experienced trauma (Morris et al., 2020; Meneguzzo & Todisco, 2021).

Trauma, adverse experiences and obesity

Trauma survivors are argued to be predisposed for obesity (Masadkar et al., 2016). This association has been accounted for by maladaptive coping strategies, emotional eating to regulate emotions, HPA axis disturbances and commonly used anti-psychotics (Kubzansky et al., 2014; Roerig et al., 2011).

Trauma exposure may increase the likelihood of obesity, however research investigating the nature of this relationship is contradictory. Additionally, literature has not clearly differentiated the influence of both type one and type two trauma (cPTSD), when examining the relationship between trauma and obesity. Research suggests that complex trauma/cPTSD, increases the risk of obesity in comparison to type one trauma, further exploration is warranted.

Study aims

Universally, obesity is one of the leading agents of preventable diseases, therefore it is crucial to understand how factors such as trauma, may influence obesity.

Thus supporting the demand for an exploratory systematic review. To the research team's knowledge, no systematic review concerned with obesity and repeated trauma exposure exists. The present study aims to:

Review studies concerned with different types of trauma exposure and obesity, with the hopes to identify gaps in literature and therefore direct future research.

Method

Protocol

In accordance with Prisma-P guidelines (Shamseer et al., 2015), an initial manual search was conducted to ensure adequate existing literature and ensure justification for review. A search strategy was formed, including search terms, inclusion criteria and exclusion criteria. Search engines included EBSCO discovery, PubMed and Cochrane Library.

Search strategy

Inclusion criteria:
•Peer reviewed
•Quantitative studies,
•psychological trauma, PTSD and cPTSD diagnosed samples.

Exclusion Criteria:
- Journals in foreign languages
- Qualitative studies
- Anorexia nervosa (AN) and PTSD/cPTSD,

Search terms:
- *"trauma exposure"* OR *"repeated trauma exposure"* OR *"Post Traumatic Stress Disorder"* OR *"PTSD"* OR *"Complex Post Traumatic Stress Disorder"* AND *"cPTSD"*
- *"obesity"* OR *"obese"* AND *"high BMI"*.

Quality evaluation
- Studies were evaluated against The Jadad Criteria (Jadad et al., 1996) to promote standardisation.
- Studies with >3 were treated as moderate to high quality studies.

Results

As seen in Figure. 1, the final sample included nine studies. With six studies falling into the moderate to high quality (Jadad et al., 1996).

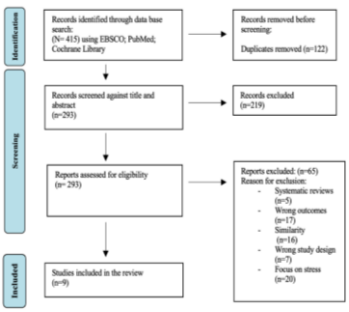

Figure 1. *Prisma flow diagram*

All studies, except study 8, documented a relationship between obesity and trauma. Generally, included studies reported that trauma was associated with eating psychopathology and maladaptive coping mechanisms, thus increasing the risk of obesity. However, studies varied on the strength of the associated, and the nature of trauma. Additionally, studies acknowledged the relationship between trauma exposure and underweight BMI categories.

Observed mediators of the relationship between obesity and trauma exposure:
- **Eating psychopathology, specifically binge-eating Disorder (BED),**
- **Emotional eating,**
- **Food addiction.**

Results

Nature of trauma exposure:

- Most studies reported that BMI status was dependent on the type of abuse experienced,
- Childhood physical assault, child maltreatment and sexual abuse was suggested to present an elevated risk for obesity (studies 3, 5, 6),
- Whereas childhood emotional abuse was associated with underweight BMI values (study 6),
- An association was shown between perceived severity of PTSD symptoms and BMI status,
- Findings of the present study additionally showcased that repeated trauma exposure, increased the odds of obesity (1, 4).
- Reporting that 'accumulative' or 'high' ACE presented a significant elevated risk of obesity (1,4).

Discussion

This study explored whether repeated trauma exposure increased the risk of obesity.

Per the above results, broadly, all studies found a significant relationship between trauma exposure and weight health, which was consistent to previous literature (Albrecht, 2020;Meneguzzo & Todisco, 2021). Thus, there is an evidenced association between trauma exposure, including PTSD, and BMI.

However, how this relationship is said to operate, and the nature of this relationship differed among studies, highlighting the inconsistency between existing research.

Implications

This study demonstrates the importance of screening for PTSD and trauma symptoms among individuals who fall within obese and underweight BMI categories, in order to provide appropriate support. Thus, aiding appropriate intervention development.

Limitations

Unfortunately, only six of the nine studies were classified as moderate-high quality studies based on the Jadad Criteria (Chiesa & Serretti, 2011). In addition, these studies did not target a specific participant sample, accounting for varied, and inconsistent findings. Becoming problematic, considering not only the complexity and multifaceted nature of trauma but additionally the well documented association between both trauma and obesity, and demographic factors (Roberts et al., 2010).

Future research

Future research should aim to target specific sample groups, as well as specific trauma types for a greater understanding of this multifaceted area.

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