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Adverse life experiences among patients with morbid obesity

ORIGINAL ARTICLE

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BACKGROUND

The association between highly stressful life experiences and morbid obesity is well documented internationally, but this knowledge is not incorporated to any great extent in Norwegian clinical practices. We have studied the reports of previous life stresses from a sample of Norwegian patients under assessment for morbid obesity at a centre where the topic of life experiences was included during the recording of patient histories.

MATERIAL AND METHOD

In the summer of 2018, an invitation to participate in the study was distributed to the last 200 patients to have been examined at the Regional Centre for Morbid Obesity in Bodø. Information on lifetime adversity was collected in clinical interviews. Data were retrieved from the patient's discharge summaries, and these texts were analysed using a qualitative approach. Stressful life experiences were divided into twelve categories.

RESULTS

The study recruited 70 participants (57 women) with morbid obesity. Of these, 64 (91 %) related at least one significant and stressful life experience, and 39 (56 %) reported three or more different types. The most frequent types included serious relationship ruptures, parental neglect and other negative childhood experiences.

INTERPRETATION

In a sample of Norwegian patients who were undergoing examination for morbid obesity there were many who reported distressing life histories. Lack of existential security in childhood, often linked to complex traumas, was prominent. In light of international research on the association between trauma and obesity, our results indicate that the patient's life history should be included in an assessment of patients with morbid obesity.

Main findings

We found a number of powerful narratives of adverse life experiences among 70 patients examined at a regional Norwegian centre for morbid obesity.

A recurring feature in many of the categories of experiences was a constant 'state of alarm' for long periods of the person's life, starting from childhood.

Obesity is one of the great health challenges of our time. This development is linked to complex dynamics between dietary habits, physical activity, physiology, genetics and epigenetics in a globalised world, where the access to high-energy foods has become virtually unlimited for many people (1, 2). Moreover, solid international evidence indicates that stressful life events can contribute significantly to the development of obesity through emotional as

well as physiological processes (3–9). In 1998, the American ACE study (Adverse Childhood Experiences) showed a dose-response relationship between traumatic childhood experiences and morbid obesity in adulthood (5). In recent years, a number of meta-analyses have confirmed and expanded on the correlations between traumatic childhood experiences and obesity in adulthood (8, 9). In the material from the Nord-Trøndelag Health Study (HUNT, 2006–08) we found a similar dose-response relationship between the self-reported degree of childhood difficulties and a number of forms of morbidity, including obesity, later in life. In the HUNT study, 4.1 % per of the adult participants reported to have had a 'difficult' or 'very difficult' childhood (6).

Patients with morbid obesity (BMI ≥ 40 kg/m^2 or BMI ≥ 35 kg/m^2 with weight-related comorbidity) can be referred by their GP to the specialist health service, where they will be offered guidance on lifestyle and possibly also bariatric surgery (10). In recent years, a number of meta-analyses have confirmed and expanded on the correlations between traumatic experiences in childhood and obesity in adulthood (8, 9). However, this knowledge has not been incorporated in Norwegian clinical practices to any great extent, and is only mentioned as vague recommendations in the guidelines for health personnel (10).

At the Regional Centre for Morbid Obesity in Bodø, interviews about stressful life experiences have for some years been included in the examination. This practice is based on knowledge about and clinical experience of how such an approach can help provide better insight into the complex causes of obesity (11). Many of the patients have given accounts of major life stresses, and a number of them have been referred to trauma therapy. This is the background for our project, which also includes a thesis in the medical study programme at the Norwegian University of Science and Technology (12).

The objective of this project was to document and analyse the information that patients who were undergoing assessment at a centre for morbid obesity in Norway chose to provide to an experienced doctor who signalled openness to discussing difficult life experiences.

Material and method

The data stem from discharge summaries of patients recently assessed for morbid obesity at the Regional Centre for Morbid Obesity in Bodø. The examination is described in Box 1. In the summer of 2018, an invitation to participate in the study was sent to the 200 patients who were the last to have been examined at the centre. The attending doctor and a research nurse retrieved de-identified data from the discharge summaries of those patients who had consented to participate. The study was approved by the Regional Committee of Medical and Health Research Ethics (REK Nord 2018/1002) and the Norwegian Centre for Research Data (NSD).

Box 1 Examination at the Regional Centre for Morbid Obesity in Bodø.

Tertiary health service

Patients are normally referred by the local hospital, assessed according to the following criteria:

- BMI ≥ 40 kg/m^2 or ≥ 35 kg/m^2 with comorbidity
- The patient wishes conservative or surgical treatment
- Treatment attempts have been made locally for six months

Assessment

The assessment normally lasts for one to three days

The entire clinical examination is undertaken by the same senior consultant and comprises:

- General medical history, including questions about stressful life experiences
- Clinical examination, including dental health status
- Relevant laboratory tests

Adverse life experiences

As part of the patient's medical history, the doctor addresses the following issues (open questions):

- Feeling of security in the home as a child and adolescent
- Social participation with peers
- Physical activity in childhood and adolescence
- School performance
- Life events in the period prior to a dramatic weight gain, if relevant

The notes describing life events are normally taken during the consultation in collaboration between the doctor and the patient, and vary from a few lines to half a page per patient.

No standardised interview guide or questionnaire is used to map the patient's life experiences, and no questions focus directly on trauma.

Seventy patients (57 women) returned a signed consent form and were included in the study. Background information on the included patients is shown in Table 1. We considered the sample to be relevant, varied and well suited for the purposes of the study (13).

Table 1

Characteristics of the 70 participating patients who were under examination for morbid obesity at the Regional Centre for Morbid Obesity in Bodø. Number if not otherwise specified.

Variable	Value
Sex	
Women	57

Variable	Value
Men	13
Age categories	
20–39 years	15
40–59 years	45
60–79 years	10
Marital status	
Married/co-habiting	47
Education	
Completed primary/lower secondary education	23
Completed upper secondary education	33
Completed higher education	13
Unknown	1
Employment	
Gainfully employed	33
Receiving disability benefit, in full or in part	20
Other	17
BMI (kg/m^2), average (range)	43 (30–63)
Maximum weight (kg), average (range)	133 (103–201)

Analyses

The method is inspired by interpretative phenomenological analysis (14, 15). All co-authors reviewed the material independently and identified preliminary categories of stressful life experiences. The material was subsequently reviewed by all authors jointly, whereby diverging interpretations were discussed and the final categories formulated. Categories that coincided directly with existing research in this area were identified first (5). We then defined some new categories in light of the existing literature. The attending doctor participated in the final phase of the analysis and validated the final categorisation. The stressful life events are reported as keywords and with no reference to sex and age to ensure anonymisation.

Results

The analysis produced twelve categories of stressful life events (Box 2).

Box 2 Overview of the twelve categories of stressful life events that were identified in the study, with percentage of the patients who reported life experiences in each category.

1. Substantial feeling of insecurity (39 %)
2. Feeling of emotional neglect by parent (41 %)
3. Witness to violence (9 %)
4. Exposure to physical violence (26 %)
5. Exposure to psychological violence (34 %)
6. Exposure to sexual abuse/assault (29 %)
7. Exposure to bullying (29 %)
8. Serious relationship rupture (66 %)
9. Substance abuse by caregiver or partner (24 %)
10. Stressful care responsibilities (27 %)
11. Traumatic encounter with a dentist/health service (24 %)
12. Other personally significant trauma (21 %)

Figure 1 shows the distribution of stressful/adverse life experiences (number of categories) among the 70 participants. The categories are described in Box 2. Examples of the twelve experience categories are given in Table 2.

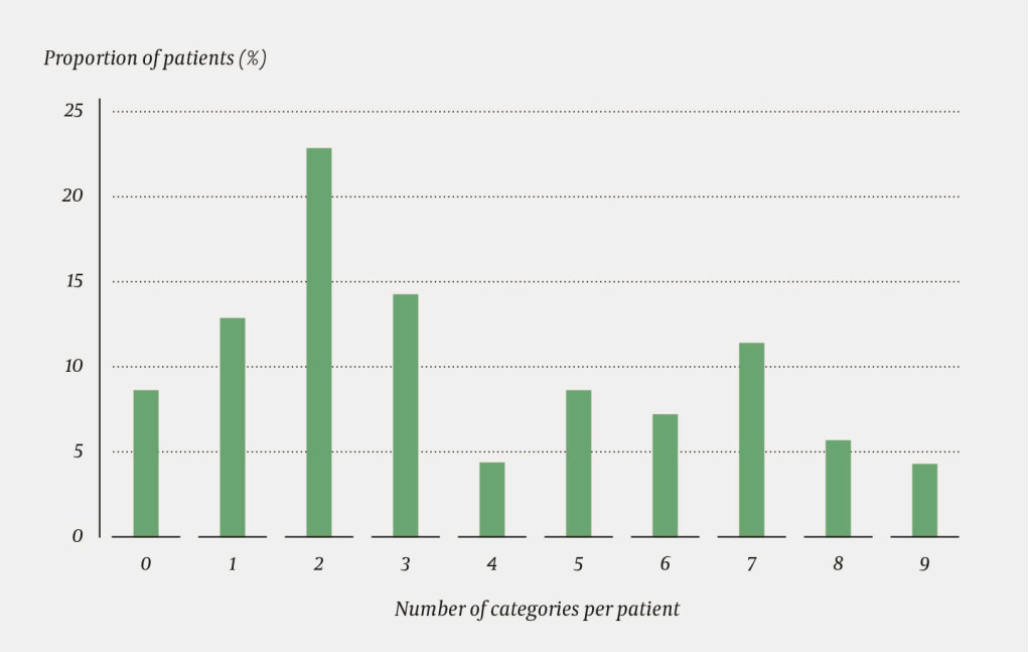

Figure 1 Distribution of different categories of stressful life experiences among the 70 patients. The categories are described in Box 2.

Table 2

Examples of individual, documented experiences in each of the twelve categories, represented by different patients in the study. To ensure anonymity, these are given as keywords and without any reference to age or sex.

Category	Category content	Example (keywords)
1. Substantial feeling of insecurity	Explicit description of feelings of fundamental insecurity early in life, with various underlying causes.	Insecurity in the home during adolescence, partly traumatising. Feeling of loneliness.
2. Feeling of emotional neglect	Explicit description of perceived lack of care by one or both parents in childhood and adolescence.	As a child having been told by their mother that they were unwanted and should never have been born.
3. Witness to violence	Having witnessed violence between parents in childhood.	As a child having feared being beaten by their father. Having witnessed their father being violent to their mother.
4. Exposure to physical violence	Physical violence in childhood and adulthood. Mainly girls having been exposed to violence from their father or women exposed to violence by their partner.	Exposure to extreme violence by their father during childhood/adolescence. Involvement of child welfare services.
5. Exposure to psychological violence	Threats, harassment and control by an intimate partner.	Was controlled and ruled over, later threatened with murder by their partner.
6. Exposure to sexual abuse/assault	Rape in childhood or adulthood and/or experience of incest.	Persistent exposure to severe sexual abuse by their father and other adults.
7. Exposure to bullying	Bullying by peers in school, including physical violence. Some have also been exposed to bullying by parents or teachers.	Severe bullying during long periods in school, with physical violence nearly every day. Nobody intervened.
8. Serious relationship rupture	Loss of or separation from persons in significant, close relationships. Approximately half of the stories involve dramatic deaths or the death of someone close. More than half involve stressful relationship ruptures – involving either the patient's parents or the patients themselves in adult age.	Loss of a close relative in a dramatic accident during childhood.
9. Substance abuse by caregiver or partner	Significantly affected by living with a caregiver/partner prone to substance abuse.	Periodically left alone with an alcoholic parent with large mood swings.
10. Stressful care responsibilities	Care of children with special needs, sole carer for multiple children while in a poor financial situation and/or difficult relationship, care responsibility for spouse, early care responsibility for parents/siblings in adolescence.	Sole breadwinner. Financial problems, Very little sleep over many years.

Category	Category content	Example (keywords)
11. Traumatic encounter with a dentist/health service	Painful procedures, physical coercion during a visit to a dentist/doctor, a dentist who appeared to be intoxicated.	Odontophobia after a tooth extraction without anaesthetic as a child.
12. Other personally significant trauma	Stories that do not fit into any of the other categories, but that the patients have described as highly stressful.	Notification of a serious disease with a possibly short life expectancy.

Of our 70 participants, 64 (91 %) reported at least one significantly stressful life experience, and 39 (56 %) three or more types of various kinds. The most frequent were serious relationship ruptures, lack of care by parents and significant insecurity in childhood (Box 2). Serious relationship ruptures concerned loss of or separation from important persons close to the patient. This included deaths under dramatic circumstances, as well as stressful relationship ruptures involving the patient's parents or the patients themselves. Mental illness, substance abuse or violence were often part of the picture. Altogether 36 patients (51 %) reported to have been exposed to one or more types of violence or sexual abuse (categories 3–6), and 17 reported substance abuse in a close relationship (category 9). In connection with a check of their dental status, 33 (47 %) respondents reported to have odontophobia, of whom 17 (24 %) reported distressing experiences with a dentist during childhood or adolescence (category 11).

Discussion

In a sample of 70 patients in a Norwegian regional centre for morbid obesity, we divided the adverse and stressful life experiences reported by these patients into twelve categories. More than one-half of the patients had experiences that fitted into three or more of these categories. The most frequent were serious relationship ruptures, significant insecurity in childhood and a feeling of lack of care by parents. These were followed by a series of more specifically defined experiences, such as sexual abuse or having witnessed violence. As illustrated by Figure 1 and Table 1, the data material includes a number of complex life stories that describe series of stressful and interwoven experiences, summarised in keywords. The experience of relationship ruptures, violence and insecurity in early life not infrequently recurs in new constellations in the patients' adult life.

The study design was chosen because we wanted to explore a topic that international research highlights as important, but of which there is little knowledge in a Norwegian context (16). The participant group was heterogenous in terms of age, marital status, education and employment status, which indicates that the findings may have transfer value to similar patient groups. The proportion of women (81 %) was somewhat higher than the proportion in the Regional Centre for Morbid Obesity in Bodø where the study

was conducted (70 %). It is difficult to ascertain whether the participants were significantly different in other respects from those who did not respond to the invitation.

The objective of the study was not to obtain generally valid prevalence data or draw any direct conclusions with regard to causal links between trauma and obesity. However, the study provides insight into what a sample of 70 patients with morbid obesity chose to reveal to an experienced doctor who provided space for a dialogue on adverse life experiences. The results should be seen in light of the fact that underreporting of trauma and abuse appears to be common, in clinical practice as well as in research (16, 17). The participants themselves considered these experiences as relevant in the clinical situation in question, and they contributed actively to their documentation.

During the analysis we were aware of our preconceptions and sought to the best of our ability to avoid prejudiced interpretations. We recognised that important nuances in the individual narratives could easily be lost or misinterpreted. Many narratives indicated complex experiences that could be subsumed under more than one category. The experiences were as far as possible categorised in direct consistency with the discharge summary. For example, information on the loss of a parent (category 8) was not categorised also as a feeling of insecurity in childhood (category 1), unless this had been explicitly described.

The analysis aimed to identify different categories of stressful life experiences that were clinically relevant. Such an analytical process can be driven by existing theory and evidence, and contribute to the development of new theories (14). The analysis was influenced by the group of authors' general knowledge of and research on correlations between life experiences and illness (6), (18–19).

Many of the categories (numbered 2, 4–9 and 12 in Box 2) could immediately be related to three key international studies (5, 20, 21). Moreover, the material provided the basis for defining some further categories (numbered 1, 3, 10 and 11), which could also be related to relevant documentation (see examples below). International literature in this area includes clinical research, basic research and epidemiological studies (12, 16). A number of publications document general associations between adverse experiences on the one hand and emotionally driven eating patterns and development of obesity on the other (4). There is a rapidly growing insight into the physiology that links stress to metabolic syndrome, appetite regulation and obesity (22). Furthermore, some epidemiological studies show associations between obesity and one or more trauma categories (referred to in 12).

A persistent mental 'state of alarm' seems to be a common denominator for many of the categories of experiences. Categories 1 and 2 point towards a fundamental lack of existential security early in life. The biological 'costs' of such a state of alarm feature prominently in modern stress research, including the allostatic load model. It describes the links between long-term stress, physiological dysregulation and development of disease, including obesity (23, 24). A feeling of insecurity and uncertainty is a key feature also in Hemmingson's obesity model (4). The ACE study showed a dose-response relationship between traumatic life experiences and morbid obesity (5). Later

studies have confirmed these associations for sexual abuse, other forms of violence, emotional maltreatment or neglect, and substance abuse in the home (3, 7, 9). Relationship ruptures in the form of early loss of a parent increase the risk of development of obesity, irrespective of other stressful life events (25, 26). Bullying and obesity are mutually related (27, 28). Persistent, stressful care responsibilities are associated with physiological load, and an association with obesity is therefore plausible (29).

Our material includes several examples of poor dental health and odontophobia. Childhood adversity is associated with chronic systemic inflammation, which may interact with a poor diet and poor dental hygiene (30). Experience of violence and abuse predispose for odontophobia (31). Stressful childhood experiences may thus increase the risk of poor dental and oral health by way of a number of different mechanisms (30, 31).

An important finding in this study is that many participants reported multiple types of stressful life experiences and thus illustrated the relevance of the term 'complex traumas', not least with regard to the conditions of vulnerable children's upbringing (32). Another prominent finding was that participants who had experienced violence or abuse in childhood were also exposed to new incidents in adult life – so-called re-victimisation (33).

We hope that the study can motivate clinicians to be open and attentive in their encounters with severely obese patients. Addressing negative life experiences and trauma in relevant clinical settings does not lead to re-traumatisation (16, 17). A trauma-sensitive medical history that does not immediately seek to elicit certain types of information can provide space for consequential information without appearing as intrusive (34), and can help provide deeper and more adequate insight into the complexity that underlies an obesity problem. Such insight can reinforce the patient's self-insight and self-esteem and reduce the stigma and shame associated with obesity. This is health-promoting in itself (11, 35, 36). Current standardised patient pathways do little to facilitate broad, trauma-sensitive assessment and treatment of morbid obesity and the complex health problems associated with this diagnosis. Achieving a professional consensus about suitable new working methods is a considerable challenge. An integrated approach requires not only a well-functioning logistical collaboration across the current boundaries between somatic and mental health services; it also requires an updated and non-dualistic understanding of body and disease (19).

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