Characteristics of Individuals Living with Obesity in Germany, Weight Loss Methods Attempted and Healthcare Resource Use Over a 12-Month Period

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Aim

- To describe demographics, comorbidities, weight loss attempts and healthcare resource use (HCRU) of individuals with obesity in Germany.

Introduction

- A quarter of the German population are currently living with obesity, and it has been estimated that obesity directly costs around €30 billion per year in Germany.[1]
  - Obesity is recognised as a chronic disease; nevertheless, anti-obesity medicines are still considered to be lifestyle products and are not currently reimbursed in Germany.
- Obesity is a significant risk factor for, and contributor to, increased morbidity and mortality in Germany, most importantly from cardiovascular disease (CVD) and diabetes, but also from cancer and chronic diseases.[2]
- Understanding the clinical characteristics of individuals with obesity provides insights into the potential current and future humanistic burden, caregiver burden, societal burden and HCRU.
- The cross-sectional RESearch survey assessing individuals with Obesity to Understand their healthcare Resource Use and Characteristics within the EU5 and Sweden (RESOURCE)[3] was re-run in Germany to collect data on demographic and clinical characteristics, weight loss strategies, HCRU and weight change 12 months prior to survey completion.

Methods

- All data were self-reported, and surveys were completed between November – December 2022.
- All included individuals were part of an existing consumer panel, which managed recruitment to the study.
  - Adults (≥18 years old) with a body mass index (BMI) of ≥30kg/m² who reported interacting with primary or secondary healthcare services in the 12 months prior to survey completion were eligible for participation.
  - Individuals who reported experiencing a pregnancy or who had participated in the previous RESOURCE study were excluded from participation.
- Participants provided informed consent and answered screening questions to confirm eligibility.
- The survey included questions about demographics, self-reported weight, comorbidities, treatments and HCRU.
  - Nineteen comorbidities were considered to be obesity-related conditions (ORCs) of specific interest (see **Table 1** footnote).
- Data were de-identified and aggregated. Analyses were descriptive.

Results

Table 1: Demographics and characteristics of RESOURCE participant sample in Germany, by BMI Class

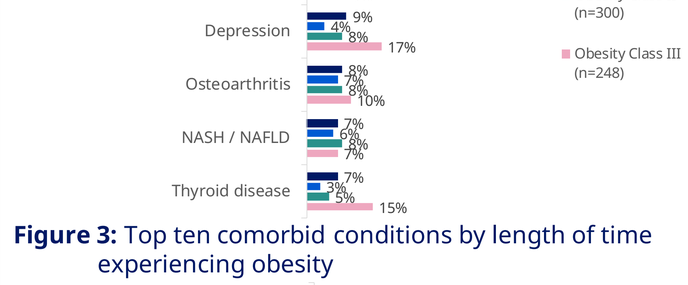
	Total (n=1000)	Obesity Class I (n=452)	Obesity Class II (n=300)	Obesity Class III (n=248)
Age (years) median, (SD), [IQR]	40.0, (10.7), [35.0 - 48.0]	41.0 (11.0), [37.0 - 46.0]	40.0 (9.7), [35.0 – 49.0]	37.0 (11.1), [34.0 – 49.0]
Sex, n (%)				
Male	547 (55)	325 (72)	143 (48)	79 (32)
Insurance type, n (%)				
Public health insurance	512 (51)	242 (54)	137 (46)	133 (54)
Private health insurance	281 (28)	62 (14)	148 (49)	71 (29)
Public + Private health insurance	206 (21)	147 (33)	15 (5)	44 (18)
Length of time BMI ≥30kg/m², n (%)				
< 3 years	599 (60)	306 (68)	205 (68)	88 (35)
≥ 3 years	401 (40)	146 (32)	95 (32)	160 (65)
Median (years), (SD), [IQR]	2.2, (7.64), [1.2 – 4.2]	2.1, (4.76), [1.2 – 3.3]	2.1, (6.72), [1.2 – 4.2]	3.5, (10.84), [2.2 – 11.7]
Number of ORCs, n (%)				
0 ORCs	265 (27)	158 (35)	39 (13)	68 (27)
≥ 1 ORCs	735 (74)	294 (65)	261 (87)	180 (73)

ORCs of interest: Asthma, Atherosclerosis, Cerebrovascular disease, Chronic Kidney Disease (CKD), Coronary heart disease, Gastroesophageal reflux disease (GERD), Heart failure, High cholesterol, Hypertension, Kidney failure, Musculoskeletal pain, Obstructive Sleep Apnoea (OSA), Osteoarthritis, Peripheral artery disease, Polycystic Ovary Syndrome (PCOS), Prediabetes, Psoriasis, Type 2 Diabetes (T2DM), Urinary incontinence

Abbreviations: BMI: Body Mass Index; **SD:** Standard Deviation; **IQR:** Inter-Quartile Range

- A total of 1000 individuals living with obesity in Germany completed the survey; median [IQR] age was 40 years [35.0, 48.0]).
- Overall, 45% of participants were in Obesity Class I (≥30kg/m² - <35kg/m²), 30% in Obesity Class II (≥35kg/m² - <40kg/m²), and 25% in Obesity Class III (≥40kg/m² - <70kg/m²).
- Most participants (75%) had been experiencing obesity for less than five years. Median [IQR] length of time experiencing obesity was 2.2 years [1.2, 4.2].
- More than half of participants (51%) were covered by public health insurance, with the remainder of the sample contributing towards their insurance.
- Length of time experiencing an ORC increased as Obesity Class increased. More individuals in Obesity Class III reported experiencing an ORC for >12 months than those in the other Obesity Classes.
- All of the sample self-reported having obesity (BMI ≥30kg/m²) yet only 43% reported that they had been diagnosed with, or were receiving treatment for, a weight condition.

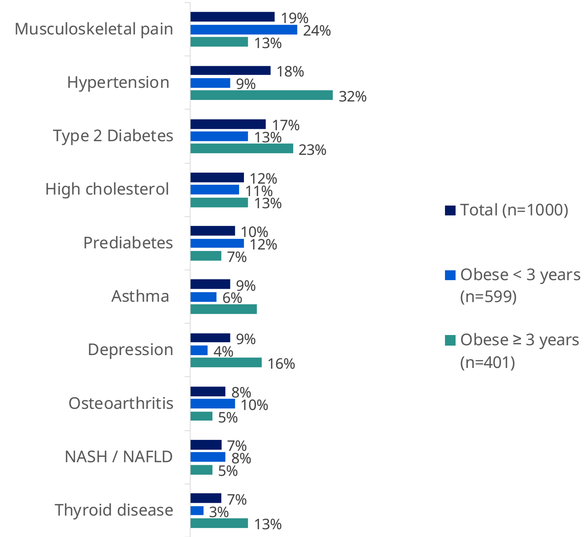
Figure 1: Receiving management/treatment for weight condition by (a) BMI Class and (b) length of time experiencing obesity



- Musculoskeletal pain (19%), cardiovascular disease (18%), hypertension (18%) and type-2 diabetes (17%) were the most common comorbidities experienced (see **Figure 2**).
- Over two-thirds (73%) of the sample reported experiencing ≥1 ORC, including metabolic, rheumatic and cardiovascular diseases.
- Of individuals who reported having obesity for ≥3 years, 57% reported being diagnosed with a weight condition, compared to 33% of those who were diagnosed for <3 years.
- This was similar for other conditions such as hypertension, type 2 diabetes and depression (see **Figure 3**).

Figure 2: Top ten comorbid conditions by BMI Class

Figure 3: Top ten comorbid conditions by length of time experiencing obesity



Abbreviations: BMI: Body Mass Index; **NASH:** Non-alcoholic steatohepatitis; **NAFLD:** Non-alcoholic fatty liver disease

- Almost all participants (95%) reported attempting to lose weight in the 12 months prior to survey completion.
  - A third reported using a weight management / reduction pharmaceutical treatment to support their weight loss attempt.
  - Only 6% reported undergoing weight loss surgery.

Figure 4: Weight loss methods attempted (n=947)

NOTE: Multi-select question allows for total >100%

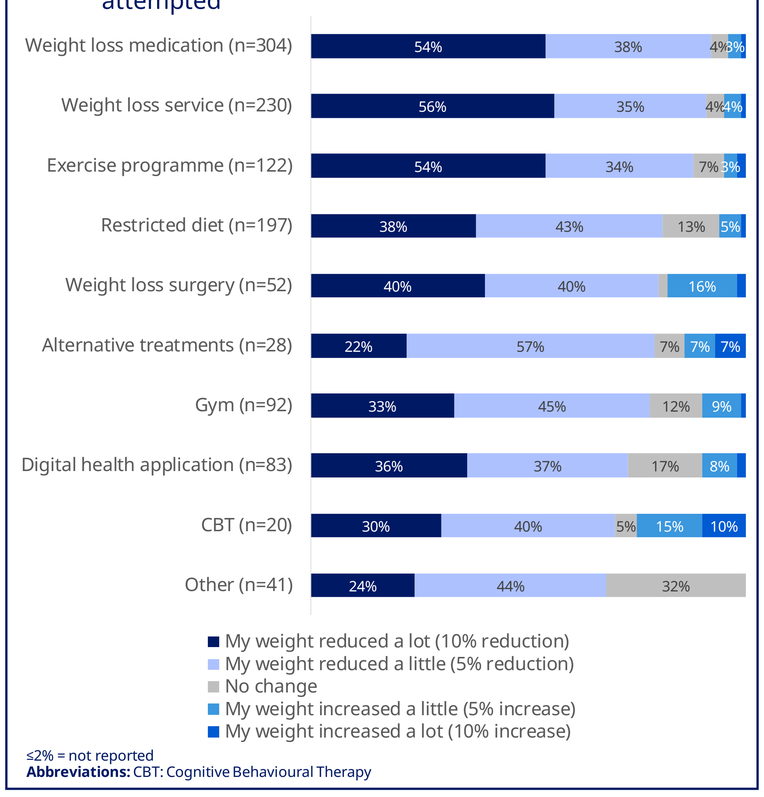
* Pharmaceutical treatment was not defined to respondents and may include over the counter treatments as well as prescribed treatment

** Weight loss service was defined as commercial service such as Weight Watchers or a service provided by the national health service

*** Alternative treatments were defined as dietary supplements, herbal treatments

- Weight loss attempts were often covered through private health insurance or self-funded by the individual.
  - In particular, high-cost attempts such as weight loss surgery (66%) and weight management / reduction pharmaceutical treatment (63%) were funded via private health insurance or self-funded.
  - Further to this, 35% of individuals utilising a weight loss service self-funded this attempt.
- For those who were still attempting to lose weight at survey completion, the majority had experienced at least a 5% reduction in weight.
- This ranged from 92% for those using a weight management / reduction pharmaceutical treatment and 91% using a weight loss service to 70% for those undergoing Cognitive Behavioural Therapy (CBT) (see **Figure 5**).

Figure 5: Change in weight observed for weight loss methods attempted



≤2% = not reported

Abbreviations: CBT: Cognitive Behavioural Therapy

- HCRU was high across the sample, with almost all participants (99%) reporting at least one interaction with a General Practitioner (GP) or a specialist (95%) in the 12 months prior to survey completion.
- The median [IQR] number of hospitalisations and surgeries experienced was similar (2.0) [1.0 – 3.0]. Median [IQR] prescription medications (3.0) [2.0 – 5.0] and refills (3.0) [0.0 – 6.0] were also similar.

Table 2: Overall HCRU

HCRU	Overall n (%)	Median, (SD), [IQR]
Prescription medications	931 (93%)	3.0, (4.67), [2.0 – 5.0]
Prescription medication refills	873 (87%)	3.0, (6.32), [0.0 – 6.0]
Treatments administered by a HCP	831 (83%)	2.0, (1.21), [1.0 – 2.0]
Total GP visits	991 (99%)	3.0, (7.71), [2.0 – 5.0]
Total specialist visits	948 (95%)	2.0, (6.13), [2.0 – 4.0]
Total pre-operation visits	783 (78%)	2.0, (2.62), [1.0 – 3.0]
Total post-operation visits	775 (77%)	2.0, (4.13),[1.0 – 3.0]
Emergency department visits	755 (76%)	2.0, (5.95),[1.0 – 5.0]
Hospitalizations	790 (75%)	2.0, (2.76),[1.0 – 3.0]
Surgical procedures/interventions	771 (77%)	2.0, (2.56),[1.0 – 3.0]
Pathology tests	878 (88%)	2.0, (3.04),[1.0 – 3.0]
Radiology exams	845 (85%)	2.0, (2.65),[1.0 – 3.0]

NOTE: Survey questions around HCRU were asked in general and HCRU reported were not specifically associated with obesity.

Abbreviations: HCP: Healthcare Professional; **GP:** General Practitioner; **HCRU:** Health Care Resource Use; **SD:** Standard Deviation; **IQR:** Interquartile Range

Conclusions

- In Germany, obesity is recognised as a chronic disease, however, anti-obesity medicines remain classified as a lifestyle product and access to treatments to support weight reduction are often restrictive.
- Almost all our sample reported attempting to reduce their weight through a variety of methods, including utilising a weight management / reduction pharmaceutical treatment.
- Weight loss attempts were often privately funded, either through private health insurance or through self-funding.
- However, less than half of our sample had been diagnosed with or were being treated for a weight condition.
- If individuals living with obesity are not being appropriately identified by the healthcare system as requiring management for their condition, this significantly reduces the potential population eligible for weight management interventions.

Strengths and Limitations

- This survey provides a detailed characterization of individuals with obesity in Germany, encompassing a wide range of ORCs, weight reduction attempts and different types of HCRU.
- All data were self-reported, meaning that diagnoses or treatments received could not be verified.

[1]Adelphi Real World, Macclesfield, UK; [2] Novo Nordisk Pharma GMBH, Mainz, Germany
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References:

(**1**) Meng, F. et al. Health Economics Review, 2023:13;14, 1-10; (**2**) Pi-Sunyer, X. Postgrad Med, 2009:121;21-33; **(3)** Evans, M. et al. Obesity-related complications, healthcare resource use and weight loss strategies in six European countries: the RESOURCE survey, 2023:47;750-757