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Individuals living with obesity show higher rates of sick leave compared to patients without obesity. The duration of sick leave increases with obesity class.

Individuals with Sick Leave (%) in 2021

51.7

68.3

Introduction

- Prevalence of obesity (BMI ≥ 30 kg/m²) in Germany is considered 19% [1]
- Adding to the clinical burden of obesity and related metabolic/cardiovascular conditions [2], available evidence points to an association of obesity and sick leave [3–6]; However, available data for Germany are outdated, mostly rely on self-reports and may underestimate true epidemiological impact [5,6]
- Aim:** this observational study aims to explore sick leave in patients living with obesity stratified by obesity class

Key results

- Population characteristics:**
 - of 3,227,677 individuals in the WIG2 database (2021), 124,617 (3.9%) were eligible
 - Obesity-related comorbidities were more frequent in higher BMI classes (Table 1)
 - In 2021, 34.4% of all individuals with obesity and sick leave, had unspecified encodings (E66.0, E66.1, E66.2, E66.4, E66.5., E66.9, E66.09, E66.19, E66.29, E66.99)
- Outcomes of interest comparing individuals living with and without obesity:**
 - Individuals living with obesity show higher rates of sick leave compared to those without (68.3% vs 51.7%, Table 2)
 - Duration of sick leave increases with obesity class (Table 2) & age (Figure 1, Table 3)

Figure 1: Average number of days on sick leave stratified by age group and obesity subgroup in 2021

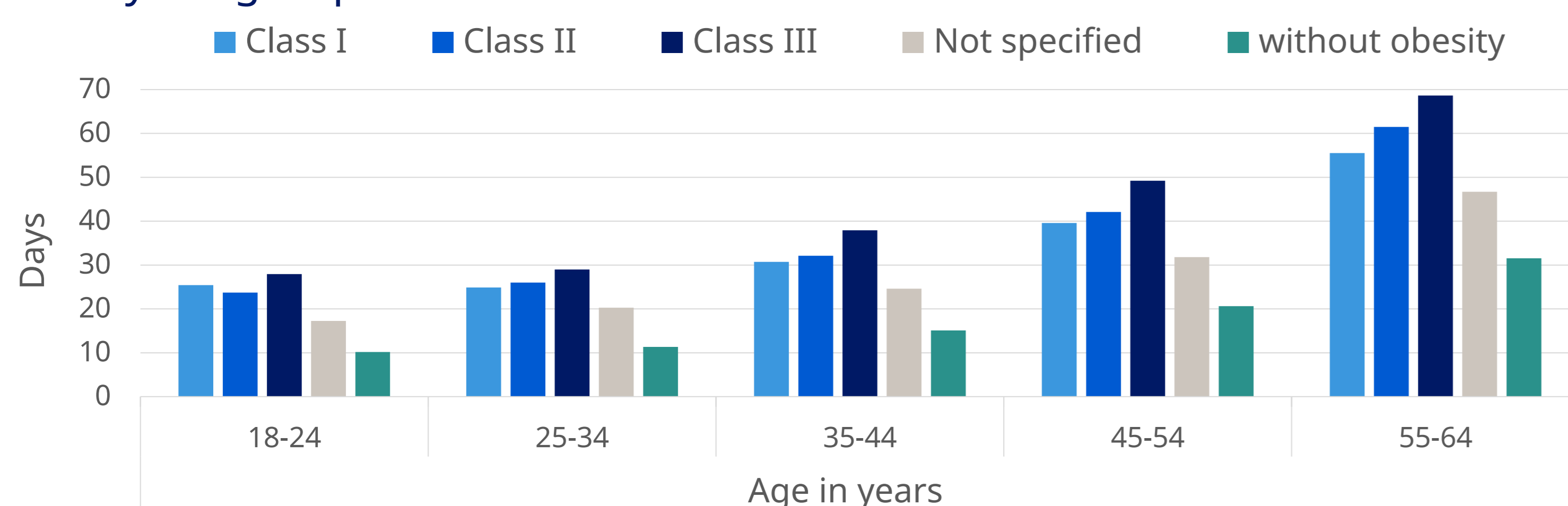


Table 3: Results on sick leave in individuals living with obesity stratified by age groups (2021)

	18-24	25-34	35-44	45-54	55-64
% with sick leave	63.8	61.0	65.2	69.3	72.7
Ø length of sick leave in days (95% CI)	21.6 [20.4; 22.9]	24.4 [23.6; 25.3]	30.2 [29.4; 30.9]	39.3 [38.6; 40.0]	55.6 [54.7; 56.4]

Discussion

- Limitation:** In Germany, health insurance data does not contain BMI measurements and physician coding via ICD-10-GM may be inconsistent and incomplete
- Future research:** The high proportion of unspecified encodings requires further investigation to characterize this epidemiologically relevant subpopulation

*of those with obesity; BMI Body mass index (class I (BMI 30 to ≤ 35), II (35 to ≤ 40) and III (≥ 40); AF Atrial fibrillation; CCI Charlson comorbidity index; DEP Depression; HF Heart failure; HTN Hypertension; LIP Dyslipidaemia; N Number of patients in Database; SA Sleep Apnoea; T2DM Type 2 diabetes mellitus

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Methods

- Study design:** cross-sectional, observational study of routinely collected claims data of the statutory health insurance (SHI) system in Germany
- Eligibility:** Individuals (1) with minimum age of 5 years; (2) generally eligible for sick payments between 2016 and 2021 (employment subject to social security contributions), (3) living with obesity (≥ 1 encoding for obesity in observation year (ICD-10-GM E66), (4) continuously insured during observation year
- Stratification:** BMI classes I, II, III and not specified obesity class
- Control group:** no encoding of obesity in observation year

Table 1: Characteristics of patients with sick leave by obesity subgroups (2021)

	Class I	Class II	Class III	Not specified	Without obesity
N (%*)	20,712 (24.4)	18,392 (21.6)	16,718 (19.7)	29,233 (34.4)	677,976
age	49.6	48.7	46.7	48.0	44.0
% Female	40.4	47.7	54.2	48.0	43.2
CCI	1.34	1.49	1.55	1.21	0.54
% HTN	59.3	65.5	68.4	58.9	24.9
% LIP	38.7	36.5	30.9	34.9	16.0
% T2DM	19.9	26.9	31.2	20.0	4.3
% DEP	17.1	19.7	22.9	12.9	12.9
% SA	11.5	15.5	21.1	10.5	2.5
% HF	5.3	6.0	7.1	4.4	1.4
% AF	3.1	4.0	4.2	2.8	1.0

Table 2: Results on sick leave stratified by obesity subgroups (2021)

	Class I	Class II	Class III	Not specified	Without obesity
% with sick leave	70.2	70.1	70.7	64.7	51.7
Ø length of sick leave in days (95% CI)	42.3 [41.4; 43.1]	44.2 [43.3; 45.2]	47.9 [46.8; 48.9]	33.3 [32.7; 33.9]	18.9 [18.8; 19.0]

Conclusion

- The results indicate that individuals living with obesity experience higher rates of sick leave compared to patients without obesity. Additionally, data suggests that duration of sick leave increases with obesity class and age.
- As this might have an impact on productivity losses and societal health burden, structured obesity prevention and treatment should be implemented more intensively.

References:

- (1) Schienkiewitz et al. Journal of Health Monitoring 2022 7(3):23-31; (2) Divino V et al. J Manag Care Spec Pharm 2021;27:210-22; (3) Keramat et al. PLoS One 2020;15(5), e0233512; (4) De Bortoli BMJ Open 2021;11:e045678; (5) Lehnert et al., Journal of Occupational and Environmental Medicine 2015, 56(1), 20-27; (6) Reber et al., BMJ Open 2018;8:e019839