The Effect of Approved Anti-Obesity Medications in Patients with Alcohol and Substance Use Disorder

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BACKGROUND

Research has shown a positive correlation between obesity and substance use disorder (SUD)/alcohol use disorder (AUD).[1] Recently approved anti-obesity medications (AOMs), have demonstrated efficacy in mitigating obesity.[2] Nonetheless, research on the impact of AOM treatment on the incidence of SUD and AUD is limited.

OBJECTIVES

This study investigated the effect of AOM utilization on the incidence of SUD and AUD in US patients with obesity.

METHODS

This retrospective cohort study used Kythera Medicaid data from January 2020 to August 2023. Two cohorts of patients with obesity were identified: 1) Patients with and 2) without AOM use. Patients in the AOM cohort had at least 1 pharmacy claim for Ozempic, Wegovy, or Mounjaro during the identification period (01JAN2021-31AUG2022) and 1 claim for obesity in the baseline period. For the AOM cohort, the treatment initiation date was designated as the index date. Presence of SUD and AUD was identified using diagnosis codes in the outpatient and inpatient settings. Sociodemographic and clinical factors, comorbidities unique to SUD or AUD, and SUD and AUD event rates were examined.

Inclusion Criteria	▪ ≥1 pharmacy claims for Ozempic, Wegovy, or Mounjaro in the identification period ▪ ≥1 claim with an obesity diagnosis prior to the index date ▪ Continuous enrollment for 12 months pre- and post-index date
Exclusion Criteria	▪ Prescribed any obesity medication during the baseline period ▪ ≥1 claim with a diagnosis of AUD or SUD prior to the index date ▪ >1 claim for an obesity medication on the same index date ▪ Aged 99 years and older
Analytical Methods	▪ Presence of SUD and AUD determined using diagnosis codes in outpatient and inpatient settings ▪ Descriptive analysis ▪ Propensity score matching for risk adjustment

RESULTS

Table 1. Baseline Characteristics Among Patients with and without AOM Use

Characteristics	With AOM Use (Ozempic, Wegovy, Mounjaro) (N = 2,309)		Without AOM Use (N = 21,181)		P-value	Std. Diff.
	N/Mean	%/SD	N/Mean	%/SD		
Sex						
Male (n)	561	24.30%	6,814	32.17%	<0.0001	0.1699
Female (n)	1,748	75.70%	14,367	67.83%	<0.0001	0.1699
Age Group (years)	46.65	12.62	35.03	18.92	<0.0001	0.6318
18-34	439	19.01%	5,446	25.71%	<0.0001	0.1548
35-54	1,120	48.51%	6,368	30.06%	<0.0001	0.3985
55-64	649	28.11%	3,126	14.76%	<0.0001	0.3656
65+	85	3.68%	953	4.50%	0.0693	0.0398
US Region						
Northeast	486	21.05%	3,880	18.32%	0.0014	0.0702
South	796	34.47%	7,403	34.95%	0.6477	0.0100
Midwest	436	18.88%	3,340	15.77%	0.0001	0.0848
West	583	25.25%	6,378	30.11%	<0.0001	0.1065
Other	8	0.35%	180	0.85%	0.0099	0.0565
Comorbidity Scores						
CCI Score	1.58	1.42	0.65	1.09	<0.0001	0.8285
Chronic Disease Score	5.49	3.49	1.41	2.42	<0.0001	1.6026
Elixhauser Index Score	4.03	2.39	2.06	2.11	<0.0001	0.9203
CCI Score (≥2)	1,029	44.56%	3,118	14.72%	<0.0001	0.8049
Chronic Disease Score (≥2)	1,948	84.37%	6,146	29.02%	<0.0001	1.2417
Elixhauser Index score (≥2)	2,031	87.96%	10,276	48.52%	<0.0001	0.8126
Socioeconomic Status						
Low	705	30.53%	6,795	32.08%	0.1298	0.0332
Medium	860	37.25%	6,639	31.34%	<0.0001	0.1267
High	675	29.23%	7,050	33.28%	0.0001	0.0863
Comorbidities for SUD/AUD						
Depression	229	9.92%	1,390	6.56%	<0.0001	0.1325
Anxiety	724	31.36%	4,501	21.25%	<0.0001	0.2436
Schizophrenia	21	0.91%	187	0.88%	0.8968	0.0028
Bipolar disorder	118	5.11%	696	3.29%	<0.0001	0.0998
Post-traumatic stress disorder	95	4.11%	543	2.56%	<0.0001	0.0954
ADHD	73	3.16%	955	4.51%	0.0027	0.0659
Specific personality disorders	21	0.91%	134	0.63%	0.1187	0.0342
HIV/AIDS	12	0.52%	75	0.35%	0.2135	0.0273
Any of the above comorbidities	879	38.07%	5,879	27.76%	<0.0001	0.2283
Outcomes						
SUD	221	9.57%	1,596	7.54%	0.0005	0.0762
AUD	23	1.00%	295	1.39%	0.1173	0.0343
SUD/AUD	234	10.13%	1,763	8.32%	0.0031	0.0649

ADHD: attention deficit hyperactivity disorder; AOM: anti-obesity medication; AUD: alcohol use disorder; CCI: Charlson comorbidity index; SD: standard deviation; Std. Diff.: standardized difference; SUD: substance use disorder

RESULTS (cont'd)

Table 2. PSM-Adjusted Baseline Characteristics of Patients with and without AOM Use

Characteristics	With AOM Use (Ozempic,Wegovy, Mounjaro) (N =2,254)		Without AOM Use (N =2,254)		P-Value	Std. Diff.
	N/Mean	%/SD	N/Mean	%/SD		
Sex						
Male (n)	551	24.45%	582	25.82%	0.4517	0.0317
Female (n)	1,703	75.55%	1,672	74.18%	0.4517	0.0317
Age Group (years)	46.6	12.69	45.95	13.29	0.0959	0.0498
18-34	436	19.34%	443	19.65%	0.8524	0.0078
35-54	1,085	48.14%	1,119	49.65%	0.4738	0.0302
55-64	632	28.04%	608	26.97%	0.5714	0.0238
65+	85	3.77%	59	2.62%	0.1194	0.0656
US Region						
Northeast	473	20.98%	454	20.14%	0.6205	0.0209
South	767	34.03%	749	33.23%	0.6882	0.0169
Midwest	428	18.99%	441	19.57%	0.7285	0.0146
West	578	25.64%	607	26.93%	0.4878	0.0292
Other	8	0.35%	3	0.13%	0.2858	0.0450
Comorbidity Scores						
CCI Score	1.56	1.41	1.5	1.48	0.1815	0.0405
Chronic Disease Score	5.37	3.43	5.3	3.44	0.5101	0.0199
Elixhauser Index Score	3.99	2.37	3.9	2.65	0.2194	0.0364
CCI Score (≥2)	987	43.79%	905	40.15%	0.0801	0.0738
Chronic Disease Score (≥2)	1,893	83.98%	1,874	83.14%	0.5893	0.0227
Elixhauser Index Score (≥2)	1,976	87.67%	1,982	87.93%	0.8469	0.0081
Socieconomic Status						
Low	682	30.26%	687	30.48%	0.9088	0.0048
Medium	841	37.31%	833	36.96%	0.8616	0.0073
High	664	29.46%	675	29.95%	0.7999	0.0107
Comorbidities for SUD/AUD						
Depression	225	9.98%	232	10.29%	0.8070	0.0103
Anxiety	715	31.72%	750	33.27%	0.4313	0.0332
Schizophrenia	20	0.89%	39	1.73%	0.0783	0.0742
Bipolar disorder	116	5.15%	160	7.10%	0.0533	0.0815
Post-traumatic stress disorder	94	4.17%	108	4.79%	0.4760	0.0300
ADHD	73	3.24%	68	3.02%	0.7623	0.0127
Specific personality disorders	21	0.93%	24	1.06%	0.7506	0.0134
HIV/AIDS	12	0.53%	9	0.40%	0.6427	0.0195
Any of the above comorbidities	866	38.42%	899	39.88%	0.4764	0.0300
Outcomes						
SUD	211	9.36%	296	13.13%	0.0046	0.1195
AUD	22	0.98%	49	2.17%	0.0224	0.0963
SUD/AUD	223	9.89%	321	14.24%	0.0015	0.1337

ADHD: attention deficit hyperactivity disorder; AOM: anti-obesity medication; AUD: alcohol use disorder; CCI: Charlson comorbidity index; SD: standard deviation; STD: standardized difference; SUD: substance use disorder

RESULTS (cont'd)

Unadjusted Results

Patients in the AOM cohort had a significantly higher prevalence of anxiety (31.36% vs 21.25%, p<0.0001), depression (9.92% vs 6.56%, p<0.0001), bipolar disorder (5.11% vs 3.29%, p<0.0001), post-traumatic stress disorder (4.11% vs 2.56%, p<0.0001), and any SUD/AUD-related comorbidities (38.07% vs 27.76%, p<0.0001; **Table 1**).

Adjusted Results

Patients in the AOM cohort had a lower incidence of SUD (9.36% vs 13.13%, p=0.0046), AUD (0.98% vs 2.17%, p=0.0224), and either SUD or AUD outcomes (9.89% vs 14.24%, p=0.0015) after adjusting for demographic, clinical, and comorbidity variables (**Table 2**).

CONCLUSION

Given that the AOM cohort had a significantly lower incidence of SUD and AUD outcomes than the non-AOM cohort, AOMs may be effective in reducing SUD and AUD events among patients with obesity.

REFERENCES

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