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# Prescription trends of antidepressant, anxiolytic, and anticonvulsant medications among dermatologists from 2013 to 2020

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To the Editor:

Antidepressants, anxiolytics, and anticonvulsants can be used in dermatology for primary and secondary psychiatric skin disorders, as well as psychogenic and non-psychogenic pruritus or burning [1-3]. The frequency of dermatologists using these medications in their practice is unknown and research is limited to small sample sizes and survey studies. In this study, we use a national database to report and analyze frequencies and prescription trends of antidepressant, anxiolytic, and anticonvulsant medications prescribed by dermatologists from 2013 to 2020.

Using the Center for Medicare and Medicaid Services (CMS) database, we analyzed 30-day prescription claims of 25 antidepressants, anxiolytics, and anticonvulsants submitted by dermatologists. We report the prescriptions per year, the annual rate of change, and the number of dermatologists who submitted at least one prescription claim for an antidepressant, anxiolytic, or anticonvulsant over the time period.

A total of 14,998 dermatologists submitted at least one 30-day prescription claim from 2013-2020. Of these dermatologists, 4,300 (28.67%) prescribed at least one antidepressant, anxiolytic, or anticonvulsant medication. Among those, 2,489 (16.60%) dermatologists prescribed gabapentinoids (gabapentin and pregabalin), 2,515 (16.7%) prescribed tricyclic antidepressants (TCAs), 365

(2.43%) prescribed selective serotonin reuptake inhibitors (SSRIs), 290 (1.93%) prescribed benzodiazepines or non-benzodiazepines, 198 (1.32%) prescribed tetracyclic antidepressants (TeCAs). Less than 1% of dermatologists prescribed serotonin and norepinephrine reuptake inhibitors (SNRIs), (0.78%), serotonin modulators (trazadone), (0.56%), anticonvulsants (0.36%), and norepinephrine-dopamine reuptake inhibitor (DNRI), (bupropion), (0.30%). The most commonly prescribed medications were gabapentinoids, totaling 23,0792 30-day prescriptions and increasing an average of 16% annually. Tricyclic antidepressants accounted for 31,989 prescriptions, decreasing at a rate of 3% each year. Among the TCAs, doxepin was the most commonly prescribed, accounting for 17,496 prescriptions. There were 32,5224 claims submitted for SSRIs, and prescriptions decreased 9% each year. The most commonly prescribed SSRI was sertraline, accounting for 9,785 of these claims. Mirtazapine, a TeCA, totaled 12,997 prescription claims and increased by 7% yearly (**Tables 1, 2**).

Tricyclic antidepressants, and doxepin in particular, were the most commonly prescribed antidepressant, likely due to their efficacy in treating neurotic excoriations and generalized pruritus [3-5]. Notably, however, overall TCA prescriptions decreased. Similarly, SSRIs, which were also once a mainstay treatment for neurotic excoriations [5,6], decreased.

**Table 1.** The number of dermatologists who submitted at least one 30-day claim per antidepressant and anxiolytic antidepressant, and the percent as a percent of total number of dermatologists (N=14,998), total 30-day prescriptions, and the annual rate of change of prescriptions.

Psychiatric medication	Number of dermatologists, (N %)	Total 30-day prescriptions	Annual rate of change of prescriptions
<b>SSRIs</b>	<b>365 (2.43)</b>	<b>32,522</b>	<b>-9%</b>
Citalopram	84 (0.56)	6,296	
Escitalopram	91 (0.61)	5,217	
Fluoxetine	86 (0.57)	8,245	
Paroxetine	65 (0.43)	2,979	
Sertraline	162 (1.08)	9,785	
<b>SNRIs</b>	<b>117 (0.78)</b>	<b>7,092</b>	<b>-1%</b>
Duloxetine	70 (0.46)	4,375	
Desvenlafaxine	7 (0.05)	127	
Venlafaxine	53 (0.35)	2,590	
<b>DNRI</b>	<b>45 (0.30)</b>	<b>2,647</b>	<b>+7%</b>
Bupropion	45 (0.30)	2,647	
<b>TCA</b>	<b>2,515 (16.7)</b>	<b>31,989</b>	<b>-3%</b>
Amitriptyline	241 (1.6)	12,502	
Clomipramine	6 (0.04)	227	
Doxepin	2,378 (15.86)	17,496	
Nortriptyline	44 (0.29)	1,764	
<b>TeCAs</b>	<b>198 (1.32)</b>	<b>12,997</b>	<b>+7%</b>
Mirtazapine	198 (1.32)	12,997	
<b>Serotonin modulators</b>	<b>84 (0.56)</b>	<b>5,384</b>	<b>+1%</b>
Trazadone	84 (0.56)	5,384	

At the same time, gabapentin and mirtazapine increased, perhaps a reflection of the growing body of research indicating their use in treating chronic itch and neurogenic itch [7-9]. The increase in gabapentin prescriptions could also relate to its FDA-approved approval for postherpetic neuralgia in 2012 [10].

The rate at which dermatologists prescribe antidepressant and anxiolytic prescriptions may be lower than indicated previously in self-surveys. A 2011 self-reported survey of 40 dermatologists found that 28% of dermatologists had used antidepressants and 25% prescribed anxiolytics [11]. The low prescription rates of antidepressants, anxiolytics, and anticonvulsants observed may reflect a discomfort among dermatologists in their understanding of psychodermatology concepts. Surveys found that only 18% [12] of dermatologists reported clearly understanding psychodermatology principles and 11% [11] indicated they were comfortable prescribing antidepressants. Similarly, a

2018 survey found that 103 out of 193 dermatologists believed they had insufficient knowledge to prescribe gabapentin [13].

In sum, our research suggests a general shift away from SSRIs and TCAs and an increased use of gabapentinoids, non-benzodiazepines (buspirone), norepinephrine and dopamine reuptake inhibitors (bupropion), and tetracyclic antidepressants (mirtazapine).

Overall, prescription rates of antidepressants, anxiolytics, and anticonvulsants were low, possibly due to dermatologists feeling uncomfortable prescribing these medications. Given the important role that dermatologists play in managing psychodermatologic disorders, it is important that efforts are made to increase confidence among dermatologists when managing these symptoms.

This study is limited by the available information within Medicare's utilization and payment data, which does not report the indication for the medication. Further research is needed to

**Table 2.** The number of dermatologists who submitted at least one 30-day claim per for psychiatric medications (benzodiazapines, non-benzodiazapines, gabapentinoids, anticonvulsants) and the percent as a percent of total number of dermatologists (N= 14,998), total 30-day prescriptions, and the annual rate of change of prescriptions.

Psychiatric medication	Number of dermatologists, (N %)	Total 30-day prescriptions	Annual rate of change (%) of prescriptions
<b>Benzodiazapines</b>	<b>270 (1.80)</b>	<b>29,539</b>	<b>-1.1%</b>
Alprazolam	161 (1.07)	16,496	
Lorazepam	99 (0.66)	11,840	
Temazepam	10 (0.07)	1,203	
<b>Non-benzodiazapines</b>	<b>20 (0.13)</b>	<b>2,688</b>	<b>+9.1%</b>
Bupirone	20 (0.13)	2,688	
<b>Gabapentinoids</b>	<b>2,489 (16.60)</b>	<b>23,0792</b>	<b>+16%</b>
Gabapentin	2,462 (16.41)	22,5109	
Pregabalin	114 (0.76)	5683	
<b>Anticonvulsants</b>	<b>54 (0.36)</b>	<b>3,477</b>	<b>-8%</b>
Carbamazepine	13 (0.09)	893	
Lamotrigine	18 (0.12)	1,046	
Lithium	13 (0.09)	520	
Topiramate	23 (0.15)	1,019	

understand the indications and factors that influence dermatology prescription trends.

## Potential conflicts of interest

The authors declare no conflicts of interest.

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