

Introduction

Adderall was the drug of interest during our research. We chose Adderall due to its widespread use, as well as occasional abuse among young adults and college age students. We compared data from 300 randomly selected tweets to the FAERS data base in order to see trends and commonalities in reported adverse events. The date ranges for the tweets and FAERS reports were the same.

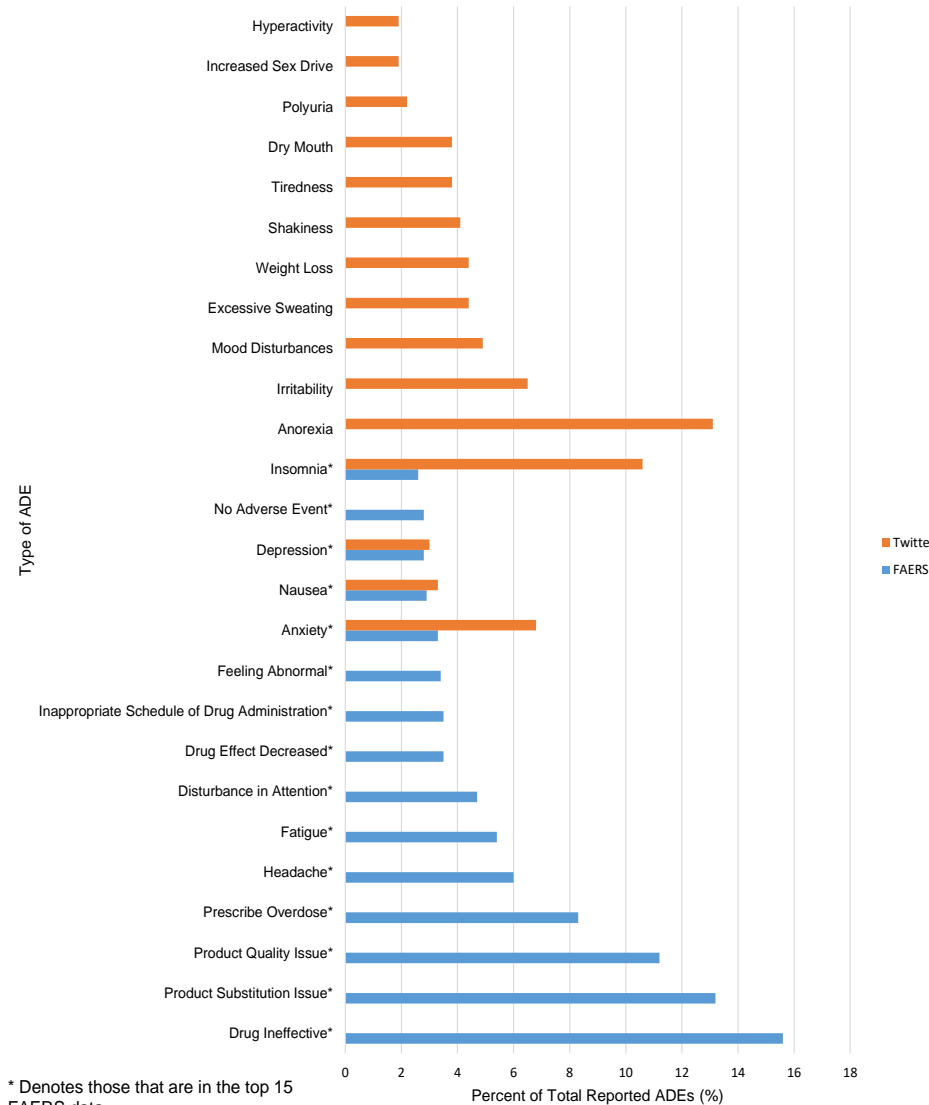
Top 15 Twitter Adverse Events

Adverse Event	Number of Tweets Containing Adverse Event
Anorexia	48
Insomnia/Sleep Disturbances	39
Anxiety	25
Irritability	24
Mood Disturbances	18
Excessive Sweating	16
Weight Loss	16
Shakiness	15
Tiredness	14
Dry Mouth	14
Nausea	12
Depression	11
Polyuria	8
Increased Sex Drive	7
Hyperactivity	7

Twitter Data Analysis

- 300 randomly selected tweets from 1/1/2013 to 12/31/2016 as our sample
- Total of 367 adverse events across 58 unique adverse events
- 27 tweets stated 2 adverse events
- 13 tweets stated 3 or more events

Comparison of the Top 15 Twitter and FAERS ADE's Reported as a Percentage of Adverse Drug Events



* Denotes those that are in the top 15 FAERS data

Top 15 FAERS Adverse Events

Adverse Event	Number of times Reported
Drug Ineffective	318
Product Substitution Issue	268
Product Quality Issue	229
Prescribed Overdose	169
Headache	123
Fatigue	111
Disturbance in Attention	96
Drug Effect Decreased	72
Inappropriate Schedule of Drug Administration	72
Feeling Abnormal	69
Anxiety	67
Nausea	60
Depression	58
No Adverse Event	58
Insomnia	52

FAERS Data Analysis

The total number of ADE's reported to FAERS that were attributed to Adderall were 2,083 for 20 unique ADE's. The top adverse drug event reported for Adderall was drug ineffectiveness.

Conclusion

The top posted Twitter adverse drug event, anorexia, was not in the FAERS top 15 reactions, and the top reported ADE in FAERS, drug Ineffective, was not reported in the Twitter posts we found. Only 4 out of the 15 ADEs were evident in both the Twitter posts and the FAERS data, which included insomnia, depression, nausea, and anxiety. Our Twitter searches should have included more about drug effectiveness in order to more accurately compare these two results. In addition, we would also need a larger sample of tweets from Twitter, due to the fact that the FAERS sample size was much larger than the number of tweets we gathered.