

Online Discussion and Sales of Tapentadol and Oxycodone in Australia

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Introduction

- Consequences of opioid use disorder are a persistent public health concern for Australia, but little country-specific data exists
- Online activity can be used to understand diversion of prescription drugs and attitudes toward safe use
- The goal of this study was to characterize content of online posts and compare reports of illicit sales of tapentadol and oxycodone from sources originating from Australia

Data Sources

The RADARS® System Web Monitoring Program

The Web Monitoring Program scrapes posts from ~15M publicly available websites that mention prescription drugs

The RADARS® System StreetRx Program

The streetrx.com website collects street sale prices of prescription drugs through a crowdsourcing approach. Website users enter the drug product, price paid, and location of the sale

Analysis Methods

The RADARS® System Web Monitoring Program

Posts were categorized by major topic of discussion and whether discussion promotes or discourages safe use of the drug. All tapentadol posts were coded, but due to size, a random sample of oxycodone posts were coded.

The RADARS® System StreetRx Program

Geometric mean price per milligram (mg) were calculated for each drug group. Two multivariable regression models were tested:

- The first assessed differences in price adjusting for mg of morphine equivalence (MME) and year
- The second assessed differences in number of sales adjusting for availability and website traffic

Disclosure

The RADARS® System is supported by subscriptions from pharmaceutical manufacturers, government and non-government agencies for surveillance, research and reporting services. RADARS System is the property of Denver Health and Hospital Authority, a political subdivision of the State of Colorado, USA. Denver Health retains exclusive ownership of all data, databases, and systems. Subscribers do not participate in data collection nor do they have access to the raw data. This research was sponsored by Seqirus Pty Ltd.

Results

Table 1: Topical Discussion in Web Posts

	Tapentadol ^a	Oxycodone
Number of posts, N	600	8,598 (8,456, 8,739)
Discussion Topic, % (95% CI)		
Addiction	2.67	5.4 (4.7, 6.1)
Death	0.00	0.8 (0.5, 1.1)
Adverse Events	4.67	10.3 (9.3, 11.2)
Concomitant use	14.70	6.1 (5.3, 6.8)
Discussion of Safe Use, % (95% CI)		
Promotes	16.83	9.9 (8.9, 10.8)
Discourages	10.00	20.2 (18.9, 21.4)
Neutral	73.17	70.0 (68.5, 71.4)

^aTapentadol posts were fully coded and, as such, are exact

There were 31 illicit sale reports for tapentadol (mean price per mg: \$0.12 AUD), and 756 for oxycodone (mean price per mg: \$1.28 AUD). Models detected no differences in the street price or number of sales between drugs after adjustments (Table 2).

Table 2: Differences in Price and Sales

Parameters	Exponentiated Parameter (95% CI)	P-Value
Model 1: Differences in Street Price		
Intercept	8.2 (5.4, 12)	<0.001
Drug (Ref: Tapentadol)	1.2 (0.82, 1.8)	0.342
10-MME increase	1.1 (1.0, 1.1)	<0.001
Year	0.97 (0.91, 1.0)	0.334
Model 2: Quarterly Number of Sales		
Intercept	0.13 (0.046, 0.38)	<0.001
Drug (Ref: Tapentadol)	1.0 (0.029, 38)	0.979
100,000-unit increase in standard units sold	1.001 (1.00, 1.02)	0.0295
Total Website Reports	1.006 (1.003, 1.008)	<0.001

Conclusions

- Australians searching online for opinions about drug use are more likely to see tapentadol as safer than oxycodone.
- The observed number of illicit sales for tapentadol was much smaller than oxycodone
- Pill strength and market availability were better predictors of price and number of sales, respectively, than drug identity

Limitation

The small number of tapentadol sales limited power to detect differences between drugs for modelling.