Publicity and reports of behavioral addictions associated with dopamine agonists

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Background: The development of behavioral addictions (BAs) in association with dopamine agonists (DAs, commonly used to treat Parkinson’s disease) has been reported. A recent report presented data that these associations are evident in the US Food and Drug Administration’s (FDA) Adverse Event Reporting System (FAERS), a database containing information on adverse drug event and medication error reports submitted to the FDA. However, given that vulnerability to publicity-stimulated reporting is a potential limitation of spontaneous reporting systems like the FAERS, the potential impact of publicity on reporting in this case remains unclear. Method and aims: To investigate the potential impact of publicity on FAERS reporting of BAs in association with DAs (BAs w/DAs) as presented by Moore, Glennmullen, and Mattison (2014), news stories covering a BA/DA association were identified and compared with BA w/DA and other reporting data in the FAERS. Results: Fluctuations in the growth of BA w/DA reporting to the FAERS between 2003 and 2012 appear to coincide with multiple periods of intensive media coverage of a BA/DA association, a pattern that is not evident in other reporting data in the FAERS. Discussion/Conclusions: Publicity may stimulate reporting of adverse events and premature dismissal of the potential influence of publicity on reporting may lead to mistaking an increased risk of an adverse event being reported for an increased risk of an adverse event occurring.

Keywords: behavioral addictions, impulse control disorders, Parkinson’s disease, dopamine agonists, gambling, FDA Adverse Event Reporting System

INTRODUCTION

The development of behavioral addictions (BAs, also referred to as impulse control disorders) in association with dopamine agonists (DAs, commonly used to treat Parkinson’s disease) has been reported (Dodd et al., 2005; Driver-Dunckley, Samanta, & Stacy, 2003; Szarfman, Doraiswamy, Tonning, & Levine, 2006; Weintraub et al., 2010). Moore et al. (2014) present evidence that these reported associations are evident in the US Food & Drug Administration’s (FDA) Adverse Event Reporting System (FAERS), a database containing information on adverse drug event (ADE) and medication error reports submitted to the FDA. Specifically, Moore et al. (2014) conducted a retrospective disproportionality analysis based on the 2.7 million serious domestic and foreign ADEs reported to the FAERS from 2003 to 2012. A threshold consisting of a proportional reporting ratio (PRR) ≥ 2 was used to detect signals (drug-associated adverse events) involving any of six DAs and any of 10 terms (or ADEs) in the Medical Dictionary for Regulatory Activities characterized as BAs. They identified 1,580 reports containing at least one BA, 710 of which also contained a DA, and reported a PRR for reports containing both a BA and a DA (BAs w/DAs) of 277.6 ($p < 0.001$).

The authors concluded that their findings confirm prior reports of a BA/DA association. However, given three factors, it is possible that their findings could have been affected by publicity. First, vulnerability to publicity-stimulated reporting has been described as a limitation of spontaneous reporting systems like the FAERS (Bate & Evans, 2009; Moore et al., 2003). Second, between 2003 and 2012, the development of BAs in association with DAs received considerable media coverage on multiple occasions. Third, a 2014 research report, which, in its analysis of FAERS reporting cast a wider net than Moore et al. (2014) with respect to both number of BAs analyzed (16 versus 10) and type of report analyzed (both serious and non-serious reports were included), found no or only very weak associations prior to publicity between DAs and BAs that could be grouped under the general headings binge eating, compulsive shopping, and hypersexuality (pre-publicity data on reports of gambling to the FAERS are not freely available) (Gendreau & Potenza, 2014).

Moore et al. (2014) briefly allude to the issue of publicity in their discussion and suggest that it cannot account for their findings. Specifically, they characterize growth in BA w/DA reporting (“dopamine receptor agonists” in Figure 1) between 2003 and 2012 as steady and conclude that it is therefore unlikely that a burst of publicity or specific events explain their findings. We contend that growth in BA w/DA reporting between 2003 and 2012 was not steady, but rather it fluctuated, with upticks in reporting in 2004 (approximately 133%) and 2011 (approximately 49%), and a sustained period of growth between 2005 and 2009 (approximately 588%). Given the observations listed in the
behavioral addictions, dopamine agonists, and publicity

METHODS

To investigate the possibility that these fluctuations may coincide with media coverage, we conducted Internet searches of 16 major US and international English-language media outlets between 2003 and 2012 for the keywords Parkinson’s AND gambling. Of the 68 news stories identified using this strategy, 35 were included. News stories were excluded if they only briefly mentioned a BA/DA association (26 stories); keywords were found among “comments” on a story (four stories); they were in “question and answer” or “Dear Doctor” format (two stories); or the webpage or article was no longer accessible (one story).

RESULTS

Of the 35 included news stories, 15 were precipitated by scientific publications (43%); 10 by lawsuits (29%); 7 by conference presentations (20%); 1 by a change in pharmaceutical company advertising (3%); 1 by a patient’s story (3%); and 1 for which the catalyst was unclear (3%).

DISCUSSION

Upticks in BA w/DA reporting to the FAERS appear to either follow or coincide with publication of news stories. Moreover, fluctuations in BA w/DA reporting are not reflected in the trajectories plotted for all FAERS reports or BA w/non-DA reports (Figure 3), which suggests the presence of some influence on the BA w/DA reporting rate specifically. That fluctuations in news coverage may coincide with fluctuations in BA w/DA reporting suggests the possibility that publicity may have influenced reporting.

Given the possibility that publicity could have influenced their findings, it would have been helpful if Moore et al. (2014) had provided PRRs for clinically related groupings of the 10 BAs analyzed. This would make it easier to assess...
FAERS = US Food & Drug Administration’s (FDA) Adverse Event Reporting System, BA = behavioral addiction, DA = dopamine agonist. The authors declare no conflicts of interest. The authors declare no conflicts of interest. Dr. Potenza has received financial support or compensation for the following: Dr. Potenza has consulted for and advised Lundbeck, Ironwood, INSYS, Shire and RiverMend Health for issues relating to impulse control disorders, gambling disorder, eating disorders, substance addictions and gender-related differences; has received research support from the National Institutes of Health, Veteran’s Administration, Mohegan Sun Casino, the National Center for Responsible Gaming, and Pfizer pharmaceuticals; has participated in surveys, mailings or telephone consultations related to drug addiction, impulse control disorders or other health topics; has consulted for gambling and legal entities on issues related to addictions or impulse control disorders; has provided clinical care in the Connecticut Department of Mental Health and Addiction Services; and the Connecticut Mental Health Center. The content of the manuscript does not necessarily reflect the views of the funding agencies, and these agencies did not contribute to the content of this manuscript.

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CONCLUSIONS

In summary, a BA/DA association has received considerable publicity since it was first reported in 2003. Data suggest that publicity may stimulate ADE reporting, and in this case it may coincide with fluctuations in BA w/DA reporting. It is important to evaluate the potential effect of publicity on ADE reporting to guard against mistaking an increased risk of an ADE being reported for an increased risk of an ADE occurring (Moore et al., 2003).

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has given academic lectures in grand rounds, CME events and other clinical or scientific venues; and has generated books or book chapters for publishers of mental health texts.

REFERENCES


