

OxyNEO and OxyContin: Safety Review

Context

Opioids are commonly used to manage pain, but are also associated with harms such as fatal overdose, addiction, and diversion. Following the addition of oxycodone controlled-release to the provincial drug formulary, opioid-related deaths in Ontario increased from 13.7 per million in 1991 to 27.2 per million in 2004. Most deaths were unintentional.

Technology

Oxycodone is an opioid analgesic, with an abuse liability similar to that of morphine. Controlled-release formulations (OxyContin CR) contain more oxycodone (5 mg to 80 mg) than immediate-release formulations (Oxy IR, 5 mg to 20 mg) to allow for less frequent dosing. When the controlled-release tablet is swallowed whole, some oxycodone is released immediately; the rest is released into the body slowly due to a protective coating. However, if the tablet is chewed, crushed, or dissolved, the medication is released all at once. This may happen accidentally, or deliberately to achieve a euphoric high. OxyNEO is a new controlled-release formulation (10 mg to 15 mg) designed to reduce misuse. If OxyNEO is crushed and added to water, it becomes a thick, gel-like substance, which is difficult to inject.

Issue

In 2012, Purdue Pharma decided to no longer make OxyContin CR available for sale in Canada, replacing it with OxyNEO. Generic OxyContin is now produced by multiple generic manufacturers. There are hopes that the use of OxyNEO will reduce misuse, but Health Canada warns that OxyNEO can still be misused and can result in overdose by ingesting or administering it in higher-than-recommended doses. Evidence is required to support whether OxyNEO is safer or associated with less harm than OxyContin.

Methods

A limited literature search of key resources was conducted, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages

- Misuse, addiction, overdose, and fatal overdose are opioid-related harms.
- It is not known if OxyNEO is safer than other forms of oxycodone.
- To provide evidence-based policy guidance, large, randomized controlled trials or epidemiological studies are needed to assess misuse over time in a wide range of relevant populations.

Results

The literature search produced 214 citations, with no additional studies identified from the grey literature. Of these, 8 articles were deemed potentially relevant, with 4 meeting the criteria for inclusion in this review: 2 retrospective database case studies, 1 retrospective observational database cohort, and 1 post-market surveillance study.

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