Fentanyl patches can be deadly

By Joyce Tsang, Matthew Chan, Steven Lam, and Certina Ho

Fentanyl is a highly potent long-acting opioid that is used broadly as an analgesic. The fentanyl transdermal system (i.e., skin patch) is highly effective, and is only used in the management of chronic pain. However, there are unique characteristics of the patches that need to be taken into consideration in order for them to be used safely. Failure to do so may result in overdoses which can have fatal consequences, especially for opioid naïve users.

ISMP Canada conducted this multi-incident analysis to examine medication incidents involving fentanyl patches that are commonly encountered within the community setting. Incidents were retrieved from ISMP Canada’s Community Pharmacy Incident Reporting (CPhIR) program from the period between January 2010 and January 2016. A total of three main themes were identified by this analysis.

Pharmacological Properties

This theme is related to the drug property of fentanyl or how it works, which includes the following sub-themes: (1) dosing interval; (2) drug-drug interactions; (3) Rate of absorption; and (4) its effects on opioid naïve users. Although considerations of pharmacological properties apply for all drugs, fentanyl is unique with its constant rate of absorption and long dosing interval. Hence, a fentanyl patch is expected to be applied for 72 hours; yet, most patients attribute a typical pain medication as lasting only for a few hours that can be used only when required. (Table 1)

Opioid-Dose Conversion

Opioid-dose conversion refers to the process of calculating the appropriate dose of fentanyl to prescribe. To initiate fentanyl therapy safely, patients must first have prior use of other opioid analgesics in order to reduce the risk of adverse effects, such as, respiratory depression. Converting the dosing between the myriad of opioid formulations can have significant safety implications if performed incorrectly. (Table 2)

Product Design

Finally, product design represents the physical limitations as to how the medication is commercially available. This refers to the fixed dosage of fentanyl and its supply of 5 patches per box. A combination of multiple or, sometimes, different patches may be required to achieve the prescribed doses. (Table 3)

Recommendations

Safety recommendations can target different stages of the medication-use process rather than a specific potential contributing factor. These recommendations provide a good transition point to align with the recent fentanyl legislation in Ontario (http://www.ontla.on.ca/web/bills/bill_detail.do?locale=en&billet=t-9&billid=3039). Many regions have already adapted a “patch-for-patch” program to create safer fentanyl practices, where patients with a prescription for fentanyl would only be provided with new fentanyl patches when they return the used patches. (Table 4)

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