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# The Misuse of Over-the-Counter NSAIDs

Sara Hudson

**Abstract:** Over-the-counter nonsteroidal anti-inflammatory drugs (NSAIDs) are some of the most frequently used analgesics. The misuse of these medications occurs frequently and often without the patient's realization. Inappropriate use can cause acute NSAID overdoses or contribute to serious adverse effects. Health care providers continue to play an important role in emphasizing the safe use of these medications. This article examines the impacts of NSAID misuse in our society and how health care professionals can help address these issues.

Analgesics, or medications that relieve pain, are some of the most commonly used medications. Every year, billions of prescription and over-the-counter (OTC) doses are consumed in the United States.<sup>1,2</sup> Nonsteroidal anti-inflammatory drugs, or NSAIDs, are one popular type of analgesic. NSAIDs, such as ibuprofen (Advil®) and naproxen (Aleve®), are available as over-the-counter products, while some require a prescription (e.g. celecoxib, diclofenac). Over-the-counter use of NSAIDs is often unsupervised by a health care provider, and safe use of the medication is contingent upon the consumer's understanding and adherence to packaging information. This creates opportunities for misuse, which could not only result in long-term complications but also increases the risk of overdose. A lack of knowledge about NSAIDs and the risks associated with them contributes to misuse. Health care providers play a key role in mitigating these risks through patient education.

As many as 70 million Americans place themselves at risk for an NSAID adverse outcome each year.<sup>1</sup> The 2009 Annual Report of the American Association of Poison Control Centers' National Poison Data System reported that NSAIDs accounted for 33% of the reported acute analgesic ingestions.<sup>3</sup> Despite the frequency of NSAID adverse outcome occurrences, the majority of individuals are either not at all or are only slightly concerned about these events. Most individuals believe that symptoms would present if they were to experience an NSAID adverse event.<sup>1</sup> Yet, the majority of NSAID overdoses are asymptomatic or produce only minor symptoms, such as nausea, vomiting, or stomach discomfort.<sup>3</sup> This makes such events especially dangerous, because individuals may not know they are harming themselves.

A lack of knowledge about NSAIDs increases the likelihood that an individual will ingest too much or inadvertently take another NSAID.<sup>1</sup> A study of over 1,300 adult NSAID users found that most of the participants used OTC NSAIDs, and one-third of these individuals took more than one at a time.<sup>4</sup> Furthermore, most of these individuals did not know that they were taking an NSAID, and only 39% of participants in the study were able to identify an NSAID.<sup>4</sup> If an individual does not know what medication they are taking, then they are unlikely to understand the risks associated with that product. These individuals may be subjecting themselves to potential harm, including NSAID-related adverse events. The development of serious or long term

adverse effects, such as gastrointestinal bleeding, kidney damage, heart attack, or stroke, can be life threatening.<sup>3,5</sup>

Not following NSAID package instructions also occurs often and for several reasons. A survey of 1700 US adults about the over-use and misconceptions of NSAIDs found that 28% of respondents took more than the recommended dose of an OTC medication. Of these, 71% took more than the recommended number of pills at one time or took the next dose sooner than the label instructed.<sup>1</sup> Pain is a common reason individuals do not follow directions on the package label. They may consume an NSAID more frequently or take more doses than recommended to ease their symptoms.<sup>4,6</sup> As discussed before, a lack of knowledge about NSAIDs and their potential risks might also cause individuals to stray from label instructions. If an individual is not knowledgeable about the NSAID product they are taking and its potential risks, it is possible they will not understand the importance of following the instructions for safe use. Not following label instructions puts individuals at a greater risk for adverse events.

The lack of knowledge by consumers and their perception of over-the-counter NSAIDs emphasizes the important role health care providers have in educating patients. Primary care providers, such as physicians and nurse practitioners, should initiate conversations with their patients about over-the-counter medications they may be taking. A survey found that only 34% of respondents had received information about an over-the-counter medicine from a health care provider in the past six months, even though 25% of these same respondents saw a health care provider for the condition they were treating with an over-the-counter medicine.<sup>1</sup> These patient-provider discussions can increase patient understanding of NSAIDs.

Additionally, pharmacists, especially those in a community setting, play a large role in educating patients about their medications.<sup>7</sup> One way this is accomplished is through patient counseling sessions. A study of elderly adults who were questioned on their use of NSAIDs found that 71.8% of these individuals took NSAIDs inappropriately. However, after being provided counseling by a pharmacist or a pharmacy intern on the safe and appropriate use of NSAIDs, the number of inappropriate users among the same elderly adults fell to 48.7%. These respondents also reported having a better understanding of the risks

associated with NSAIDs.<sup>7</sup> This study shows that counseling sessions are an effective way to educate patients on the safe and appropriate use of NSAIDs, which then in turn can curb misuse.

There are a number of factors that contribute to the misuse of over-the-counter NSAIDs. Lack of public knowledge regarding the safe use of NSAIDs could lead to taking too large of a dose or mistakenly taking two NSAID products. This increases the risk of adverse outcomes and overdoses. Health care providers have an important role in educating patients on safe NSAID use. Over-the-counter NSAID misuse is avoidable and with continued efforts by health care providers, the risks associated with inappropriate use can be mitigated.

## References

1. Cryer B, Barnett MA, Wagner J, Wilcox, CM. Overuse and misperceptions of nonsteroidal anti-inflammatory drugs in the United States. *Am J Med Sci*. 2016;352(5):472-480. doi:10.1016/j.amjms.2016.08.028.
2. Hommez G, Onegna, B, Cauwels R, De Paepe P, Christiaens V, Jacquet W. Analgesia (mis)usage on a dental emergency service: a patient survey. *Clin Oral Investig*. 2018;22(3):1297-1302. doi:10.1007/s00784-017-2228-6.
3. Kaufman D, Kelly J, Battista D, Malone M, Weinstein R, Shiffman S. Exceeding the daily dosing limit of nonsteroidal anti-inflammatory drugs among ibuprofen users. *Pharmacoepidemiol Drug Saf*. 2017;27(3):322-331. doi:10.1002/pds.4391.
4. Hunter LJ, Wood DM, Dargan PI. The patterns of toxicity and management of acute non-steroidal anti-inflammatory drug (NSAID) overdose. *Open Access Emerg Med*. 2011;6;3:39-48. doi:10.2147/OAEM.S22795.
5. Holubek W, Stolbach A, Nurok S, Lopez O, Wetter A, Nelson L. A report of two deaths from massive ibuprofen ingestion. *J Med Toxicol*. 2007;3(2):52-55. doi:10.1007/BF03160908.
6. Cavagna L, Carporali G, Trifiro V, Arcoraci V, Rossi S, Montecucco C. Overuse of prescription and OTC non-steroidal anti-inflammatory drugs in patients with rheumatoid arthritis and osteoarthritis. *Int J Immunopathol Pharmacol*. 2013;26(1):279-81. doi:10.1177/039463201302600132.
7. Bear MD, Barlett D, Evans P. Pharmacist counseling and the use of non-steroidal anti-inflammatory drugs by older adults. *Consult Pharm*. 2017;32(3):161-168. doi:10.4140/TCP.n.2017.161.