



Paracetamol is the most common pharmaceutical agent involved in toxic exposure in Singapore. An overdose can cause liver damage and even death. PHOTO: AGENCE FRANCE-PRESSE

Some youth taking too much paracetamol by accident: Study

They didn't know about doses or the drug's potential toxicity

Toh Wen Li

Most people would not think twice about popping a few paracetamol tablets to get rid of that throbbing headache.

Yet, a recent National University of Singapore (NUS) study has found that some people accidentally take too much of the common medicine, so much so that they end up in the emergency department of the hospital.

Half of the people who overdosed were young people aged 18 to 25, according to the study on patients admitted to the National University Hospital (NUH).

Most of them were taking the medicine for pain relief, with headache (57.9 per cent) being the most common pain reported.

One should not take more than 4g – eight tablets – of paracetamol daily, based on recommended dosages.

Paracetamol is a “general sale list” medication, meaning people can buy it without consulting a pharmacist or doctor. Medicine with paracetamol is widely available over the counter here, with 128 such products registered here, including those from the popular brand, Panadol.

Besides those that help to relieve pain and reduce fever, many are also multi-ingredient medicines that treat cold and flu.

“A person might take a few of these products at the same time for symptom relief when he has a cold,” said Dr Grant Sklar, a co-author of the study, which was published last October in the Singapore Medical Journal online.

“This can result in an accidental overdose of paracetamol if he doesn't read the label and list of ingredients,” added Dr Sklar, who is a senior principal clinical pharmacist at NUH and associate professor at the pharmacy department of NUS.

UNAWARE OF CORRECT DOSAGES

For the study, the researchers reviewed the medical records of 177 patients aged 18 to 75 who had been hospitalised at NUH after taking too much paracetamol between January 2011 and December 2013.

Paracetamol overdose occurred predominantly in young adults who deliberately consumed the medicine. No one died.

Still, 22.6 per cent of the cases were unintentional.

This suggests that healthcare providers can do more to educate the public on how to properly take the drug, said experts.

Referring to the cases of accidental overdose, Dr Soong Jie Lin, a senior clinical pharmacist at Singapore General Hospital, said: “The study suggested a lack of awareness of the usual recommended doses of paracetamol and potential toxicity from ingesting excessive amounts of paracetamol.”

In the study, the median dose of paracetamol ingested was 10g.

But not everyone downed the medication all at once.

One in 10 consumed too much of the medicine over more than two hours. Such “staggered ingestion” can still give rise to the effects of overdosing.

Eight in 10 patients involved in the study suffered from nausea or vomiting, while more than half also experienced abdominal pain and dizziness.

Despite this, among the people for whom information from a

psychiatric review was available, nearly half (46.5 per cent) of those who consumed 10g of paracetamol or more did not think that their overdose was lethal.

This is not true. A paracetamol overdose can cause liver damage and even death.

In fact, paracetamol is the most common pharmaceutical agent involved in toxic exposure in Singapore. It is also one of the most common causes of poisoning worldwide, being the leading cause of acute liver failure in the United States and United Kingdom.

Dr Soong, who was not involved in the study, said that another factor that may explain why young people accidentally overdose on the medication could be that they were exposed to it at a young age.

“Paracetamol may be perceived as a relatively safe medication since it can be taken by infants and children as well,” she said.

FAILURE TO READ LABEL

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DR GRANT SKLAR, a senior principal clinical pharmacist at NUH and co-author of the study on paracetamol.

ANTIDOTE REDUCES LIVER DAMAGE

In the study, 76.3 per cent of the overdose cases were treated with an antidote, called N-acetylcysteine (NAC), to prevent the paracetamol from causing toxicity to the liver.

Patients took a median time of 4.2 hours to show up at the hospital after taking too much paracetamol. This is among those with a known estimated time of ingestion.

Most cases came to NUH within seven hours of ingestion.

This allowed the doctors to start administering NAC in a timely manner.

The treatment is highly effective in preventing serious chemical damage to the liver when given within the first eight hours.

As for those who deliberately overdosed on paracetamol, most of them were women (75 per cent), according to the study.

“In general, published local data suggests that women tend to use less violent means to attempt suicide, while men tend to use more violent or lethal means,” said co-author Dr Christina Tan, who was a doctoral student under Dr Sklar when she did the research.

The study also found that unintentional overdose was typically linked to a worse outcome for patients.

Dr Sklar said that those who suffered from an accidental overdose might seek treatment later, by which point more damage might have been done to the body.

He added: “A person who takes an intentional overdose may have more symptoms, or regret what they did and tell someone. Such people are likely to get medical attention earlier.”

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Avoid an accidental overdose

- Most people are probably more familiar with the brand name Panadol, rather than the active drug ingredient, paracetamol. Be aware, however, that paracetamol may be marketed under different brands, as well as in multiple combination products for the treatment of cough and flu.
- Given that paracetamol is usually indicated for mild to moderate pain, taking excessive doses will not help with more severe pain. Instead, it will increase the risk of side effects.
- Be aware that paracetamol is sometimes known as acetaminophen, especially if you are seeing a doctor overseas.
- Always read the drug ingredients listed on the medication boxes or packaging.
- Be aware of when paracetamol should be consumed, as well as the recommended doses.
- Patients experiencing more severe pain may need a combination of several types of painkillers. They should consult a healthcare professional to evaluate the causes of the pain and get advice on the appropriate choice and doses of painkillers.

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• Source: Dr Soong Jie Lin, senior clinical pharmacist at Singapore General Hospital.

Make sure you take the correct dose of paracetamol

4g

Dosage of paracetamol that should not be exceeded per day

Paracetamol is taken for pain relief and treatment of fever. It is commonly available as 500mg tablets.

Today, 128 products with the ingredient line the shelves in Singapore.

Adults are advised to take 1g doses, or two tablets, every four to six hours as necessary. One should not consume more than 4g, or eight tablets, per day.

Paracetamol is available in differ-

ent strengths and formulations – this will affect the recommended dose and interval between doses.

The extended-release formulation of paracetamol, for instance, is sold in 665mg caplets. This product is designed to prolong the effect of the medicine, by gradually “releasing” the chemical for the body to absorb.

In this case, the dose recommended by the manufacturer is

two caplets every eight hours, or up to six caplets a day.

For infants and children, the recommended dose of paracetamol is generally calculated based on their weight. Parents should consult their pharmacist or doctor to ensure that the correct dose is given to their child.

Consumers should also read the labels and information on the appropriate use and dosage. They

should get medical help if they have questions about paracetamol consumption, or when their condition does not improve or worsens after taking the medicine.

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• Sources: Dr Soong Jie Lin, senior clinical pharmacist at Singapore General Hospital; Health Sciences Authority.