



Medicines Evidence Commentary

commentary on important new evidence from Medicines Awareness Weekly

Published: January 2019

Substances involved in poisoning among young people

A large cohort study found that from 1998 to 2014 medically-attended poisonings involving paracetamol, alcohol, non-steroidal anti-inflammatory drugs (NSAIDs), antidepressants and opioids increased between 3 and 5-fold among children, young people and adults aged 10 to 24 years in England. This reinforces the importance of following NICE recommendations on [preventing suicide in community and custodial settings](#) and [self-harm in over 8s: long term management](#).

Overview and current advice

Poisoning is one of the main causes of death from any cause in young people, predominantly resulting from self-harm, which affects 1 in 7 young people. Self-harm increases the risk of suicide, with reports of the increase in likelihood ranging from 10 to 32 over the next 10 years. There is little available UK data on substances used specifically in poisoning in young people ([Tyrrell et al. 2018](#)). The NHS [five year forward view for mental health](#) set targets to reduce the number of suicides by 10% by the year April 2020 to March 2021.

In the guideline on [preventing suicide in community and custodial settings](#), NICE recommends reducing access to methods of suicide by ensuring local compliance with national guidance. For example, by restricting access to painkillers in the community (see NHS England's [Items which should not be routinely prescribed in primary care: guidance for CCGs](#), MHRA's [Best practice guidance on the sale of medicines for pain relief](#) [appendix 4 in the Blue guide], and Faculty of Pain Medicine's [Opioids Aware](#)).

The NICE Pathways on [suicide prevention](#), [self-harm](#) and [coexisting severe mental illness and substance misuse](#) bring together all related NICE guidance and associated products in a set of interactive topic-based diagrams. The NICE guideline on self-harm in children and young people, recommends advising parents and carers of the need to remove all medicines or, where possible, other means of self-harm available to the child or young person. It is important to also consider the contribution that substance misuse can make towards poisoning.

The National Confidential Inquiry into suicide and homicide has produced a separate report on [suicide by children and young people](#). See also the NICE key therapeutic topics (KTT) on [medicines optimisation in long-term pain](#) and on suicide prevention (publication expected early 2019).

New evidence

An open [cohort study](#) of 1,736,527 children, young people and adults aged 10 to 24 years (52% female), investigated the incidence of medically-attended poisoning incidence in England between 1998 and 2014 ([Tyrrell et al. 2018](#)). Data were collected from the routinely-used linked Clinical Practice Research Datalink, Hospital Episode Statistics, and Office for National Statistics mortality data. The primary outcome was a poisoning event occurring during the study period and recorded within any 1 of the 3 linked data sources. This included repeat poisoning events in the same individual.

There were 7.2 million person-years of follow-up, identifying 40,333 recorded poisoning episodes from 31,509 young people. The substance involved was recorded in 57.8% of cases; 31.8% of these had more than 1 poisoning substance recorded. Poisonings were recorded as intentional in 66.5%, unintentional in 7.5%, and of undetermined or unspecified intent in 26.0% of cases.

The most common substances involved were paracetamol (39.8%), alcohol (32.7%), NSAIDs, 11.6%), other and unspecified antidepressants (including selective serotonin reuptake inhibitors and serotonin and norepinephrine reuptake inhibitors, 10.2%), and opioids (7.6%). Other substances involved included benzodiazepines (4.6%), aspirin (4.6%), psychostimulants such as amphetamines, methylphenidate, and ecstasy (4.2%), other antiepileptic and sedative hypnotic drugs (including Z-drugs 3.2%), and tricyclic and tetracyclic antidepressants (2.7%).

During the study period, poisonings involving paracetamol, alcohol, non-steroidal anti-inflammatory drugs (NSAIDs), antidepressants and opioids increased between 3 and 5-fold. Rates of poisoning were highest at ages 16–18 years for young women and 19–24 years for young men. The risk of poisoning approximately doubled in the group who had the most socioeconomic deprivation compared with the least deprived group. It should be noted that all these data relate to poisoning, not necessarily death due to poisoning and some young people had repeated incidents of poisoning.

This study provides important information on substances used in poisoning in children, young people and adults aged 10 to 24 years in the UK. It is reportedly the first such study to use population level combined English healthcare data sources and, consequently, the results should be generalisable to the wider UK population of young people. The authors report that this is 1 of the largest studies to look at substances involved in poisoning in young people worldwide. The study used 3 linked databases to obtain information, rather than just 1 source, broadening the population cohort. The authors highlighted some limitations, including potentially underestimating the poisoning from each medicine class because only 57.8% of events specified the substances involved. Socioeconomic status was based on each participant's GP practice address (not their home address) and the large sample size meant that some [statistically significant](#) results reported might not have been [clinically significant](#).

Commentary

Commentary provided by NICE

The results from this study ([Tyrrell et al. 2018](#)) provide a specific focus when developing local strategies to reduce poisoning and subsequent suicides in young people and adults. The findings reinforce the importance of following NICE recommendations on [preventing suicide in community and custodial settings](#) and [self-harm in over 8s: long term management](#), such as limiting access to medicines to reduce the risk of self-poisoning. Managing the risk of repetition of self-harm or risk of suicide, by identifying and agreeing with the person who self-harms, the specific risks for them is also recommended.

The largest increase in incidence rate over the study period was seen in opioid poisonings, suggesting that inappropriate prescribing should be reviewed and addressed. A key message from the [National Confidential Inquiry into Suicide and Homicide by people with Mental Illness](#) (aged 10 to 100 years) is

to reduce suicide by opiate overdose. The inquiry recommends that clinicians and pharmacists should be aware of the potential risks of opiate and opiate-containing painkillers. Safer prescribing in primary and secondary care remains crucial, particularly for people with long-term pain, a group at high suicide risk. The report recommends prescribing only short-term supplies and enquiring about opiate-containing painkillers kept at home. The Faculty of Pain Medicine's [Opioids Aware](#) outlines good practice in prescribing opioid medicines for pain.

Both the MHRA and NHS England recommend restricting access to over-the-counter analgesics, which were the most commonly associated medicines involved in poisoning of young people. This is because evidence suggests that restricting availability reduces the number of hospital admissions and deaths from accidental or impulsive overdose.

The NICE guidelines on [depression in children and young people](#), [depression in adults](#) and [depression in adults with a chronic physical health problem](#) give specific recommendations on choice of antidepressant in these groups. NICE recommends taking into account toxicity in overdose when choosing an antidepressant for people at significant risk of suicide. The NICE guideline on [depression in children and young people](#) recommends monitoring people when antidepressants are prescribed, as there is evidence for a small but significant increase in the presence of suicidal thoughts in the early stages of treatment in people younger than 30 years.

Restricting access to prescribed and over the counter medicines for pain and depression, and identifying and discussing risks of treatment with young people, particularly those who self-harm, appear to be key factors in reducing poisoning and risk of suicide in young people.

Study sponsorship

This study was funded by the National Institute for Health Research.

References

Tyrrell EG, Kendrick D, Saya K et al. (2018) [Poisoning substances taken by young people: a population-based cohort study](#). Br J Gen Pract DOI: <https://doi.org/10.3399/bjgp18X698897>

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