Fatal and hospital admissions for poisoning in Fiji

Background
Poisoning is a significant global health problem with the burden being disproportionately borne by low- and middle-income countries.\(^1\) Within country variations in incidence of poisoning suggest the influence of socio-culturally mediated factors, particularly among people of Asian ethnicity.\(^2,3\) In Fiji, although routinely reported poisoning statistics are not usually disaggregated by ethnicity, hospital-based studies suggest that people of Indian ethnicity are overrepresented in hospitalisations and deaths due to poisoning.\(^4\) As part of the Traffic-Related Injury in the Pacific (TRIP) project funded by the Wellcome Trust United Kingdom (UK) and the Health Research Council of New Zealand, a population-based Fiji Injury Surveillance in Hospitals (FISH) system was established in all trauma-admitting hospitals in Viti Levu for 12 months commencing 01 October 2005.\(^5\) Using the FISH database, we describe the population-based incidence and demographic characteristics of poisoning resulting in death or hospital admission in Viti Levu.

Method
All deaths and hospital admissions for more than 12 hours in the FISH database, where the mechanism of injury was classified as poisoning were examined. All poisoning-related deaths in Fiji are reported to the Police department and undergo post mortem examination. Population-based incidence rates by socio-demographic characteristics were computed using denominator data from the Fiji 2007 census.

Main Findings

Deaths
- There were 17 poisoning-related deaths in the 12 month period reviewed, including 12 in-hospital deaths (2.3 per 100,000).
- Most deaths were intentional (n=16, 94%), occurred among men (n=9, 53%), people of Indo-Fijian ethnicity (n=13, 77%) and among 15-29 year olds (n=12, 71%).

Hospitalisations
- There were 157 non-fatal poisoning-related admissions to hospital in the 12 month period reviewed (24.1 per 100,000).
- Among the non-fatal admissions for poisoning, 107 (68%) were of Indo-Fijian ethnicity, 47 (30%) i-Taukei (indigenous Fijian), and three (1.9%) were of ‘Other’ ethnicities.
- The crude admission rate among Indo-Fijians (41.2 per 100,000) was three times that among i-Taukei (13.3 per 100,000).
- Over half (54%) of all poisonings were reported as intentional events (12.9 per 100,000), 43.9% were unintentional events (10.6 per 100,000) and in 3% the intent was undetermined.
- Intentional poisoning rates were highest in Indo-Fijian females aged 15-29 years (94.9 per 100,000)
- Unintentional poisoning rates were highest in Indo-Fijian males aged 0-14 years (36.1 per 100,000).
- The context for unintentional poisoning events was commonly reported as ‘leisure or play’ (i-Taukei 94%, Indo-Fijian 73%) and for intentional poisoning events was a conflict situation (i-Taukei 100%, Indo-Fijian 93%).
- Over 75% of poisoning events occurred at home or in a private compound.

Conclusion and Implications

The higher rate of intentional poisoning events, with women aged 15–29 years being at highest risk, is a pattern observed in many low- and middle-income countries. The ethnic differences identified are consistent with previous case series from Fiji,2, 4, 6 and other countries. The differences observed indicate the need for culturally relevant strategies that consider the specific contexts for suicide and self-harm among the Indian population in Fiji, as well as broader implications for hazards at home for the population in Fiji more generally. Systematically collecting and reporting data on poisoning events within the health information system could help prioritise appropriate poison control strategies.

Acknowledgements

The study funders: the Wellcome Trust (UK) and the Health Research Council of New Zealand. The Permanent Secretary of Health, Dr Lepani Waqatakirewa, and the Fiji Ministry of Health staff at the surveillance hospitals. The wider TRIP Project Team: Professors Sitaleki Finau & Rod Jackson, Drs Josephine Herman & Robyn McIntyre, Mabel Taoi, Asilika Naisaki, Ramneek Gounder, Litia Vuniduvu, and Nola Vanualailai.

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