Children and Adolescents With Acute Alcohol Intoxication/Self-poisoning Presenting to the Emergency Department

Sue Woolfenden, MBBS, MPH, FRACP; David Dossetor, FRCP, FRCPsych, MD; Katrina Williams, MBBS, MSc, FRACP, FAFPHM

Objective: To describe the presentations, characteristics, and follow-up care of children and adolescents aged 10 to 18 years who present to emergency departments (EDs) with acute alcohol intoxication/self-poisoning.

Design: Retrospective medical record review.

Setting: Five EDs in Western Sydney, Australia.

Participants: Patients aged 10 to 18 years who presented to EDs with acute alcohol intoxication/self-poisoning between January 1, 1996, and December 31, 2000.

Main Outcome Measures: Frequency of presentations; presentation characteristics; psychosocial characteristics; and presence or absence of follow-up.

Results: Two hundred twelve children and adolescents presented to EDs 216 times. Of the 212 patients, 49 (23%) were 14 years or younger, and the youngest was aged 10 years. The majority (82%) came after hours and were brought in by emergency services (77%). In 13% of presentations, verbal and/or physical aggression was present, and a threat of self-harm was present in 2% of cases. A mental health worker was consulted about the child or adolescent in only 6% of presentations. Most children and adolescents (85%) were discharged from the ED. Of concern, in 56% of presentations, a follow-up plan was not recorded. There was documentation of mental health follow-up in only 14% of presentations and follow-up from drug and alcohol services in only 1%. Forensic history, school functioning, and a history of past mental health problems were not documented in more than 60% of the medical records examined.

Conclusions: When children or adolescents present to an ED with acute alcohol intoxication/self-poisoning, their risk factors for psychosocial dysfunction appear to be inadequately assessed, documented, and followed up. Clear guidelines for assessment and referral pathways must be established in EDs.

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A LCOHOL USE and abuse are common in the teenage years. In Australia, 90% of teenagers aged 15 to 16 years report having consumed more than 2 alcoholic drinks in their lifetime, and 29% describe drinking to the point of intoxication.1 Of concern, data from the United States suggest that children of an increasingly younger age are using alcohol, and up to 32% of adolescents have difficulties with alcohol intoxication/self-poisoning or dependence.2,4

Alcohol abuse and dependence have been shown to play a role in motor vehicle accidents and other injuries and are associated with an increased risk of suicide, delinquent behavior, high-risk sex, and problems with school functioning in adolescents.2,3,5,6 Associated comorbid psychiatric disorders include conduct disorder, oppositional defiant disorder, attention-deficit/hyperactivity disorder, major depression, and posttraumatic stress disorder.5,6,7 In addition, children and adolescents with alcohol abuse or dependence may have problems with substance use disorders and comorbid psychiatric disorders as adults.5,6,7

Health professionals need to be able to identify children or adolescents who are having difficulties with alcohol. This problem may come to their attention when a child or adolescent with acute alcohol intoxication/self-poisoning presents to an emergency department (ED). Current American pediatric and psychiatric literature recommends that once the child or adolescent presenting to the ED with acute alcohol intoxication/self-poisoning is medically stable, mental health and drug and alcohol issues be explored and appropriate follow-up arranged.3,9 However, scant data are available on what actually

From the Centre for the Prevention of Psychological Problems in Children (Dr Woolfenden) and the Departments of Psychological Medicine (Drs Woolfenden and Dossetor) and Paediatrics and Child Health (Dr Williams), Children's Hospital at Westmead, University of Sydney, Sydney, Australia.
PARTICIPANTS AND METHODS

We conducted a retrospective medical record review of children and adolescents who presented with aggression, self-harm, and substance abuse to 5 EDs in Western Sydney from January 1, 1996, to December 31, 2000. A subgroup of children and adolescents was identified using International Classification of Diseases, Ninth Revision (ICD-9), and International Classification of Diseases, Tenth Revision (ICD-10) codes for "alcohol intoxication" and "self-poisoning, alcohol" based on documented history, clinical assessment, and/or blood alcohol levels. Subjects were excluded if their presentation with acute alcohol intoxication/self-poisoning occurred in the context of an overdose of other substances (eg, paracetamol) or other forms of deliberate self-harm (eg, self-laceration). Medical records were then manually searched to confirm that the child or adolescent had indeed presented with "acute alcohol intoxication/self-poisoning."

As part of the larger study, 2 data collection forms were designed and piloted on the medical records of 5 eligible subjects then adjusted accordingly. The first form was used to collect social and demographic data. The second was used to collect data on details of presentations and follow-up plans. Data were manually collected from ED records and from the medical records of those admitted to the ward from the ED. The data for 4 of the EDs were collected only by the principal investigator (S.W.). At the remaining ED, a clinical nurse consultant in psychiatry helped the principal investigator with data collection.

Data were entered in an Access database, and Excel pilot tables were used to analyze frequency data (Microsoft, Redmond, Wash). Ethics approval was given by the Children's Hospital at Westmead and the Human Research Ethics Committee, Western Sydney Area Health Service.

happens when these children and adolescents present to EDs, including assessment of their psychosocial risk factors and whether follow-up is arranged. The purpose of this study was to describe the presentations, characteristics, and follow-up treatment of children and adolescents aged 10 to 18 years who present with acute alcohol intoxication/self-poisoning to EDs in Western Sydney, Australia. This research was part of a larger retrospective medical record review examining children and adolescents who present to EDs with aggression, self-harm, and substance abuse.

RESULTS

PRESENTATION CHARACTERISTICS

During the 5-year study period, 212 children and adolescents with acute alcohol intoxication/self-poisoning made 216 visits to the 5 EDs in Western Sydney. This equates to one presentation every 9 days in Western Sydney. Presentation characteristics are outlined in Table 1. The majority (82%) of presentations for acute alcohol intoxication/self-poisoning were made "after hours" (ie, after 5 PM and before 9 AM or on weekends) to local hospital EDs. The most presentations were seen on Saturday (25%), followed by Sunday (21%) and Friday (18%).

One hundred sixty-six children and adolescents (77%) were brought in by emergency services (eg, ambulance or police). On presentation to the ED, 14 subjects (6%) were triaged as needing to be seen immediately by medical staff, 35 (16%) as needing to be seen within 15 minutes, and 92 (43%) as needing to be seen within half an hour.

In 4 presentations (2%), self-harm was documented as having been threatened. Verbal and/or physical aggression was displayed in 28 presentations (13%) and in 4% of presentations, physical restraint of the child or adolescent was required in the ED. Of note, although all the children and adolescents were seen by ED medical staff, in only 12 presentations (6%) was a mental health professional consulted by the ED. In none of the cases was drug and alcohol services consulted at the acute presentation.

DEMOGRAPHIC AND PSYCHOSOCIAL CHARACTERISTICS

Of the 212 subjects, 53% were boys, and 47% were girls. The median age was 16 years. Forty-nine subjects (23%) were 14 or younger, and the youngest child was aged 10 years.

In general, the current psychosocial characteristics and relevant history of the children and adolescents were poorly documented in their medical records. Table 2 shows the number of children and adolescents with this information documented in their records. When this information was documented, a high proportion of psychosocial dysfunction was present.

DISCHARGE AND FOLLOW-UP

The majority of children and adolescents (85%) were discharged. A mental health follow-up plan was docu-
mented in only 30 records (14%), and a drug and alcohol services follow-up plan was present in only 2 records. Of concern, in 121 medical records (56%), no follow-up plan was documented.

For 58 children and adolescents (27%), a history of mental health problems, abuse, and/or a family history of mental health or substance use problems was documented in their medical records. Only 31% of these subjects had a mental health follow-up plan documented, and 34% had no follow-up plan documented.

For 58 children and adolescents (27%), a history of mental health problems, abuse, and/or a family history of mental health or substance use problems was documented in their medical records. Only 31% of these subjects had a mental health follow-up plan documented, and 34% had no follow-up plan documented.

At least every 9 days, a child or adolescent with acute alcohol intoxication/self-poisoning presents to an ED in Western Sydney. Of concern, 49 children and adolescents in this study were 14 or younger, and the youngest child was aged 10 years.

Evidence and consensus-based guidelines for assessment and treatment have been developed for children and adolescents with suspected substance use disorders, including alcohol abuse and dependence. These guidelines recommend comprehensive assessment of alcohol and drug history, psychosocial risk factors, and treatment history. The combination of alcohol abuse and disruptive disorders, previous self-harm, a history of physical abuse, and a family history of mental health/substance use problems has been found to be associated with an increased risk of completed suicide among adolescents. Adolescents with alcohol abuse or dependence are also 6 to 12 times more likely to have a history of physical abuse and 18 to 21 times more likely to have a history of sexual abuse than control adolescents. Therefore, the identification and documentation of these risk factors through comprehensive assessment when children and adolescents present to EDs with acute alcohol intoxication/self-poisoning has the potential to prevent adverse outcomes, such as further child abuse, untreated mental health problems, and death.

There is scant evidence from this study that these assessments occur in EDs. In addition, many of these children and adolescents do not appear to have a follow-up plan, even when they have a history of risk factors, such as past mental health problems, child abuse, and family history of substance use or mental health problems, documented in their medical records.

There are several possible reasons why the recommended approach to assessment is not followed and follow-up arrangements are not made. The majority of these presentations occur after hours and are dealt with by emergency staff who may not have the training or the time to comprehensively assess a child or adolescent’s mental status. In addition, an after-hours presentation is a barrier for access to specialist child and adolescent mental health and drug and alcohol services in Western Sydney, acutely and for follow-up, because these services are only fully staffed and operational during business hours. There may also be problems in linking after-hours cases with these services the next day because of staff changes in EDs due to shift work and difficulties contacting families once they have left the ED.

Another possible reason why mental health or drug and alcohol services are not consulted by EDs is that some clinicians believe that children and adolescents who present with acute alcohol intoxication/self-poisoning are “just experimenting.” In this study, most children and adolescents with acute alcohol intoxication/self-poisoning were clinically ill enough to be brought to EDs by emergency services and to be triaged as needing to be seen within half an hour. In addition, 6% of children and adolescents were triaged as needing to be seen immediately by medical staff, which implies that resuscitation was required. Threats of self-harm and aggression were present in a small number of the total sample, as was a history of mental health problems and child abuse, which implies that at least a subgroup has chronic levels of psychosocial dysfunction. Scandinavian studies have also found that while some ED presentations with acute alcohol intoxication/self-poisoning may result from “normal adolescent experimentation,” others may also be an indicator of psychosocial problems, attempted suicide, and/or continuing alcohol abuse and dependence. In other words, children and adolescents who present to EDs are the “tip of the iceberg” of alcohol use in young people. It is likely that these children and adolescents have other reasons for their presentation or that they have used alcohol in a dangerous situation or dosage.

This study had several limitations. Subject identification relied on correct ICD-9 and ICD-10 coding of the children and adolescents when they presented to the ED. Incorrect coding may well have resulted in an underestimate of the true number of children and adolescents with acute alcohol intoxication/self-poisoning. In addition, the retrospective nature of this medical record review and poor documentation in these records limited comprehensive evaluation of psychosocial functioning and outcomes for this group of children and adolescents. This unsatisfactory documentation in the medical records has been demonstrated previously for children and adolescents presenting with self-harm to EDs and raises service quality and medicolegal issues. In conclusion, this study provides a valuable step in collaboratively tackling the issue of the child or adolescent who presents to the ED with acute alcohol intoxication/self-poisoning. Clear guidelines on the assessment, documentation, and follow-up of these children and adolescents must be established for EDs. These need

### Table 2. Psychosocial Characteristics in 212 Children and Adolescents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Not Documented</th>
<th>Documented</th>
<th>Documented as a Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>School problems</td>
<td>146 (69)</td>
<td>66 (31)</td>
<td>35 (17)</td>
</tr>
<tr>
<td>Past mental health problems</td>
<td>127 (60)</td>
<td>85 (40)</td>
<td>42 (20)</td>
</tr>
<tr>
<td>Criminal history</td>
<td>180 (85)</td>
<td>32 (15)</td>
<td>14 (7)</td>
</tr>
<tr>
<td>Welfare involvement</td>
<td>172 (81)</td>
<td>40 (19)</td>
<td>29 (14)</td>
</tr>
<tr>
<td>History of abuse</td>
<td>163 (77)</td>
<td>49 (23)</td>
<td>47 (22)</td>
</tr>
<tr>
<td>Family history of mental health/substance use problems</td>
<td>174 (82)</td>
<td>38 (18)</td>
<td>21 (10)</td>
</tr>
</tbody>
</table>

*Data are given as number (percentage) of participants.
Health professionals must be able to determine when a child or adolescent is having difficulties with alcohol abuse or dependence. The problem may come to their attention through a presentation to an ED by a child or adolescent with acute alcohol intoxication/self-poisoning. This retrospective review demonstrates that when a child or adolescent with acute alcohol intoxication/self-poisoning presents to an ED, comprehensive assessment and follow-up are either not occurring or not being documented in the medical record. This study is a valuable step in collaboratively tackling this issue. Clear guidelines on the assessment, documentation, and follow-up treatment of these children and adolescents must be established and evaluated in EDs.

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Corresponding author and reprints: Sue Woolfenden, MBBS, MPH, FRACP, Department of Psychological Medicine, Children’s Hospital at Westmead, Locked Bag 4001, Westmead 2145, New South Wales, Australia (e-mail: susanw@chw.edu.au).

REFERENCES