

DOI: 10.36648/2471-8505.6.1.3

Intensive Care Units and Acute Intoxications

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Received date: March 09, 2020; Accepted date: March 13, 2020; Published date: March 20, 2020

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Citation: Brajković AV (2020) Intensive Care Units and Acute Intoxications. J Intensive & Crit Care Vol.6 No.1:3

Introduction

Acute intoxications present a significant burden for emergency department visits, accounting for up to 2% of admissions in Europe [1,2]. Patients that require organ support, mostly mechanical ventilation due to respiratory insufficiency, are subsequently hospitalized in intensive care units (ICU). Self-poisoning is not considered a frequent reason for ICU admission. However, the rate of ICU admission due to acute intoxication fluctuates from 3.7% to 17.3% [3]. The substance of abuse varies between countries. The most common abuse substances are alcohol, street drugs, and medications. Alcohol and street drugs are more common among the younger population, mostly younger than 40 years. So far, males were more prone to so-called recreational usage of alcohol and street drugs. The users usually combine several ingredients or ingest new synthetic drugs which result in various clinical presentations and certainly pose challenges in the diagnostic workup. Moreover, the complications can be very serious, from death to permanent disability. Given that the evolution of toxicological analysis is slower than development on new street drugs, physicians sometimes do not know what substance a cause of intoxication is. Moreover, the available antidotes are scarce and naloxone is still considered as the most important antidote in the area of acute intoxications. On the other hand, prescription medications are the most frequently used substances in a suicide attempt. Benzodiazepines and antidepressants are drug classes that are most frequently misused. Middle-aged females are more prone to use a prescription medication with suicide intent. Another important medicine that is misused is paracetamol (acetaminophen), which is widely available as an over the counter (OTC) drug. Paracetamol is considered a good and safe antipyretic and analgesic. However, paracetamol overdose can cause serious liver damage and possibly death. Moreover, paracetamol overdose is considered as one of the leading causes of liver failure. The evidence so far supports the claim that persons who intentionally ingest a substance tend to have a high risk of repeating the event. Non-fatal repetition rates approximate 15% [4] and the type of drug taken at the initial admission is associated with the readmission risk. Interestingly, the ingestion of benzodiazepines raises the readmission risk close to 18% [5].

Acute intoxications are not considered as an important health care problem in a critical care setting. Namely, the length of stay is short, complications of treatment are infrequent and in-hospital mortality rates are rather low. However, it is interesting to observe that approximately 10% of the intoxicated patients die within two years after ICU admission. Moreover, a significant proportion of those patients are unemployed. Given that most of these patients are middle-aged males and females who can work and take care of themselves the question arises whether we can improve the long-term outcome of these patient populations and improve their quality of life. Should ICU physicians and nurses consult colleagues on psychiatry wards to provide counselling and/or therapy to acutely intoxicated patients before ICU discharge? Presumably, early psychiatric consultation might refer patients to the outpatient clinics to receive adequate psychiatric support and/or to social service or local communities that could provide advice and help in everyday life. The set of different measures provided in the earlier course of the disorder/disease could reduce the repetition rate of self-harm attempts and improve patients' quality of life. Another issue is intoxication with alcohol and street drugs. Better knowledge of possible immediate and chronic complications might prevent young people from experimenting with drugs.

To conclude, structured research unifying experience of different ICUs across the globe might provide better insight into the causes of self-poisoning and set the ground for possible prevention measures. One of those measures might be raising awareness about the impact of intoxications on someone's life, education about the harmful effects of street drugs and judicious prescription control of certain drugs.

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