

The Evaluation of The Poisonings Admitted to Emergency Service of University Hospital

Neslihan Gurbuz Gazi*

Department of Toxicologist, MS Occupational Health and Safety, Turkey

ABSTRACT

Poisoning is the absorption of chemical, physical, or organic substances into the body by the gastrointestinal tract, skin, mucosa or respiratory tract or by injection, causing toxic effects and cell, tissue and organ damage. Poisoning is an important public health problem that causes a major portion of emergency department admissions and may cause serious consequences to health.

INTRODUCTION

Poisoning events often occur due to the patient-initiated use of medicines with or without prescription, iatrogenic administer of high doses of medicines by physicians, accidental exposure to chemical substances, or intentional intake of biological agents for suicide. Unintentional poisoning deaths in the United States are increasing, especially as a result of prescription analgesics. This increase has been ascribed to increasing prescription rates.

Medicinal drugs are the most encountered (47%–86%) agents in poisonings. Among medicinal drugs, paracetamol, nonsteroidal anti-inflammatory drugs, and antidepressants are mostly seen [1].

The aim of this study was to determine the frequency, types, causes of poisoning and treatment methods of september 01.2018 and september 01.2019 in Gazi University Hospital Adult Emergency Service.

MATERIALS AND METHODS

Between 01, 09, 2018 and 01, 09, 2019 all poisoning cases aged 18 years and older who applied to the adult emergency service were prospectively viewed and 126 cases were reached [2]. These patients were evaluated to, type and frequency of intoxication, cause of poisoning and treatment method in emergency care and results of cases were determined.

Ethics committee approval was received.

IBM SPSS version 20.0 program was used for statistical analysis.

RESULTS

3.25 % (126) of 3879 Forensic cases who applied to Gazi University Hospital Adult Emergency Service between 01.09.2018 and 01.09.2019 were poisoning cases [3]. Of these, 57.14 % (72) were suicide, 23.0 % (18.25) poisoning with chemicals, 12.70 % CO poisoning, 7.93% food poisoning, 2.38 % alcohol intoxication, 1.59% substance intake.

As a result of poisoning 126 people admitted to the Adult Emergency Department 62 % were female, 38 % were male. The mean age of the patients was 33 years. The lowest was 18 and the highest was 63 years old.

The highest drug intake was 45.83 % with antidepressants, paracetamol 16.67%, nonsteroidal anti-inflammatory drugs (NSAID) 12.50%, antipsychotics 10.42%, benzodiazepin 8.33%, antibiotic 6.25 %. The combined drug intake was 58.3 %.

Distribution according to the treatment method applied to the patients who attempted suicide by taking medication tons were gastric lavage + activated charcoal 38.8 %, gastric lavage 13.8 %, activated charcoal 22.2 %, antidote 8.3 %, symptomatic treatment observation 16.6 %. All of them requested a psychiatric consultation [4].

DISCUSSION

In our study, 3.25 % (126) of 3879 Forensic cases who applied to Gazi University Hospital Adult Emergency Service between 01.09.2018 and 01.09.2019 were poisoning cases.

Sungur et al. In retrospective study of poisoning cases admitted to the adult emergency department of a university hospital

Correspondence to: Neslihan Gurbuz Gazi, Department of Toxicologist, MS Occupational Health and Safety, Turkey, Gazi University, E-mail: neslihan.gurbuz@gazi.edu.tr

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(2010-2015), poisonings constitute 0.31% of all emergency admissions. In our study Gazi University Hospital Adult Emergency Service poisoning total admission between 01.09.2018 and 01.09.2019 were % 0.20 (66496).

It is seen that this ratio is between 0.38% and 2.43% in Turkey.

126 people admission to adult emergency service due to poisoning 62% of this was female and 38% was male. The mean age of the patients was 33 years [5]. The lowest was 18 and the highest was 63 years old in our study.

Sungur S et al. In their study, the female / male ratio was found to be 52.1 / 47.9. In many studies, it is noteworthy that poisonings are more common in women (56.5% - 72.1%) [9]

the mean age of the patients admitted to the emergency service due to poisoning was 33 years.

Demographic characteristics of overdose cases and use of health services (January 1, 2015 - November 30, 2016) approximately half (49%) of overdose cases in the cohort study were between 20 and 39 years of age [6].

In our study, the most common cases of poisoning were suicide 57.14 % (72). The most common case among suicide cases is drug intake 66.66 %.

Studies have shown that medicinal drugs are the most encountered (47%-86%) agents in poisonings [7].

(2019), in their study in cases of deliberate self-poisoning with overdose drugs, intensive care was shown to be widely practiced by pre-hospital emergency medicine doctors.

In their study as the causing substance of poisoning, medicinal drugs were found in 465 cases (55.4%). Of medicinal drug poisonings, 221 (46.8%) were multiple drug intake.

In our study the highest drug intake was 45.83 % (22) antidepressants, paracetamol 16.67 % (8), nonsteroidal anti-inflammatory drugs (NSAID) 12.50 % (6), antipsychotics 10.42 % (5), benzodiazepin 8.33 % (4), antibiotic 6.25 % (3). 37.50 % (18) of the antidepressants were selective serotonin reuptake inhibitors (SSRIs) and 8% (8.33) tricyclic antidepressants.

Studies have shown that paracetamol, nonsteroidal anti-inflammatory drugs and antidepressants are the most commonly used drugs in poisoning.

In their study Over-the-counter (OTC) analgesics drug use as a suicide attempt method among adults substances most frequently used were: acetaminophen among OTC drugs (30%); antidepressants (37%), anxiolytics (30%), opioids (10%), and anticonvulsants (9%) among prescription drugs; and cocaine (10%) among recreational drugs [8].

10% of medicinal drug poisonings are analgesic and antidepressants most of them are selective serotonin reuptake inhibitors (SSRIs).

(2019) in their study, there was a trend for a higher proportion of cases of drug-related poisonings in males. Also, there was an increased trend towards cases involving analgesics/anti-inflammatories/immunosuppressants, antidepressants and antipsychotics.

In Sungur et al. studies conducted in Turkey and in the American Association of Poison Control Centers Report, it is reported that psychoactive drugs are the most commonly encountered drug group and it is followed by analgesic.

In studies, it was reported that the most poisoning was with acetaminophen. Over-the-counter (OTC) drugs, in particular acetaminophen, are frequently used in suicide attempts. Accessibility to these drugs may be an important contributor.

In addition, the high frequency of poisoning from antidepressant or antipsychotic drugs may be attributed to the frequent sale without prescription of these drugs. This may be the reason that it is the most commonly encountered drug in intoxications.

In our study, it was seen that 16.7 % (6) of the patient were kept under observation with only symptomatic treatment while gastric lavage + activated charcoal, gastric lavage, activated charcoal, antidote were applied in 83.3 % (30) of them.

In their study it was seen that 46.6% of the patients were kept under observation with only symptomatic treatment while nasogastric lavage and activated charcoal were applied in 40.2% of them.

In most emergency departments, poisoning treatment is similar. Patients admitted to emergency services are initially evaluated for vital signs. Gastric lavage is performed properly and activated charcoal is given.

In their study EMS physicians frequently administered antidotal treatments (n = 17, 15%). This rate of administration was relatively high, especially considering the low prevalence of opioid intoxication in this cohort.

In their study, Flumazenil is the most frequently used antidote despite the uncertainty in the benefit-risk ratio.

Isbister and Villarreal et al. (2003, 2015) in their studies In contrast, only one patient was given activated charcoal. The use of activated charcoal before the hospital is also discussed. It is recommended to be used only in a short time and if high-risk poisons are swallowed.

Barton et al. 2015 in their study This highlights the need for evaluation of the effectiveness and benefit-risk ratios of specific toxicological treatments in the prehospital setting. The effectiveness of naloxone in the management of opioid poisoning has been well demonstrated, however this is not the case for other types of antidote or poisoning.

Another issue that remains to be resolved is the role of antidotes or decontamination therapy and the most appropriate person for their administration (paramedic or physician).

It is remarkable that alcohol intake is very high in poisoning cases. There are studies reporting alcohol intake frequency to be between 2% and 13%. In our study, this rate was found as 2.38%.

Sungur et al. were found that 72% of patients who had alcohol intake before admitting to the emergency room had attempted suicide.

In our study, we found that 21 % who had alcohol intake before admitting to the emergency room had attempted suicide. In several studies, it has been shown that suicide attempts are encountered more in alcoholics. It is known that there is an evident association between alcoholism and depressive disorders.

When studies conducted on this matter are examined, it is seen that mortality rates due to poisoning are between 0% and 7.4%. There were no cases resulting death in the emergency room within poisoning patients in our study.

In our study Gazi University Hospital Adult Emergency Service poisoning total admission between 01.09.2018 and 01.09.2019 were 0.20 % (66496).

The incidence of acute intoxication by the applicants to the emergency department in Turkey ranged from 0.26% to 1.96%.

CONCLUSION

Although poisoning cases are encountered with low frequency in emergency practice, they are among the first cases that should always be considered and closely monitored in terms of emergency services. Drugs detected at high rates in poisonings, such as antidepressants and analgesic should be used more cautiously.

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