

K22 An Evaluation of Alcohol Concentrations in Samples Referred to the Forensic Laboratory in Baghdad

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After attending this presentation, attendees will be aware of the minor impact of the problem of alcohol drinking in causing and contributing to the cause of death in all autopsy cases in Baghdad. The goal of this paper is to detect and measure the concentration of alcohol, tackle this issue, and reveal its scope.

This presentation will impact the forensic science community by revealing the size of the problem of alcohol intake in contributing to or causing death.

Alcohol is one of the world's leading risk factors for morbidity, mortality, and disability. In 2012, 5.9% of all global deaths were attributed to alcohol and 5.1% of all global diseases and injuries were attributed to its use as well. Its effect was more pronounced from neuropsychiatric disorders.¹ Annually, 88,000 people die from alcohol-related causes in the United States and it is considered the fourth-leading preventable cause of death. It is blamed for 31% of all driving fatalities.²

Alcohol is also related to many crimes. In 2013-2014, 53% of violent crimes were committed under the effect of alcohol, including assaults, wounds, sexual offenses, homicides, criminal damages, theft, and robbery.³

This study was a prospective study within the first six-month period of 2015 on postmortem blood samples referred to the main forensic toxicology laboratory in the medicolegal directorate in Baghdad for the detection and measurement of alcohol; 5ml to 10ml of blood was withdrawn for each sample and a Headspace/Gas Chromatograph/Flame Ionization Detector (HS/GC/FID) from Agilent 7890A was used.⁴

A fifty-milligram percentage of alcohol was considered the cut-off point and every result above 50% was considered to be a positive sample. In general, traumatic death was predominant among all victims.⁵ From the total 1,275 samples, only 112 (8.8%) were positive, with males more than five times more frequent than females. There was a significant relation to alcohol intake with traumatic causes of death, yet in only 13 victims were the concentrations fatal.

This study also revealed that traumatic causes of death decreased significantly with advancing age. Only 12 positive samples were attributed to natural causes of death. In those victims, alcohol probably factored with their diseases in precipitating death.

Alcohol drinking is a minor problem, as it was detected in a small group of all cases, yet its association with traumatic death was significantly higher than natural death and its consumption was more than five times higher in males. Only in a limited number of cases was the concentration fatal.

Reference(s):

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