



Research Article

BHANG POISONING: EXPLORING CLINICOEPIDEMIOLOGICAL, LABORATORY, AND LEGAL ASPECTS IN 50 CASES ADMITTED AT A TERTIARY CARE TEACHING HOSPITAL”Anjesh Mittal¹, Richa Gupta², and Garima Singh³

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Article History:Received 28th October, 2023Received in revised form 5th November 2023Accepted 15th November, 2023Published online 28th November, 2023**Key words:**

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ABSTRACT

Introduction: Bhang, a preparation made from cannabis leaves, is commonly consumed during the festival of Holi in India. However, it is known to cause a range of clinical manifestations and may lead to fatal outcomes. According to the World Health Organization, an estimated 147 million people have used cannabis and its product worldwide in 2017. The Health care landscape is a complex interplay of medical epidemiological legal and ethical consideration. **Material & Methods:** In this study, we aimed to analyse the clinico-epidemiological and medico legal spectrum of 50 poisoning cases of bhang reported to the emergency department of a tertiary care teaching hospital during the 3 days on the occasion of Holi. **Result:** The study shows the male preponderance over female with 3:1 ratio and the course of bhang is drinks and sweets. The most common symptoms reported were altered sensorium followed by tachycardia, vomiting and hypotension. With derranged liver enzymes and hypokalemia. **Conclusion:** The study highlights the need for greater awareness about the potential harms of bhang consumption and its associated complications. The authors suggest that healthcare professionals should be equipped to recognize and manage cases of bhang poisoning effectively. The findings of this study may serve as a baseline for future research on the clinical and public health implications of bhang consumption.

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INTRODUCTION

Bhang, a preparation of cannabis plant, has been traditionally used as an intoxicant during the festival of Holi in India. However, the unregulated consumption of bhang can lead to poisoning and other serious health complications. The Clinico-epidemiological and Medico legal spectrum of 50 bhang poisoning cases reported on the day of Holi occasion to a Tertiary care teaching hospital is a matter of concern for public health.

According to the World Health Organization, cannabis is the most widely used illicit drug globally, with an estimated 147 million people using it in 2017. In India, the use of bhang is legal in some states, but its unregulated sale and consumption during festivals like Holi can result in a surge of poisoning cases. The symptoms of bhang poisoning range from mild to severe, including nausea, vomiting, diarrhea, hallucinations, and even coma.

In this context, the bhang poisoning cases reported on the day of Holi occasion to a Tertiary care teaching hospital provides valuable insights into the extent and severity of the problem. This study can help healthcare providers and policymakers develop strategies to prevent and manage bhang poisoning during festive occasions and may help to formulate the different policies to reduce the incidence of such intoxication.

MATERIALS AND METHODS

A cross sectional study analysis of 50 cases of bhang poisoning admitted during 3 days on the occasion of Holi conducted at Emergency department of tertiary care teaching hospital. The clinical and demographic characteristics, mode of ingestion, symptoms, laboratory investigations(LDH, CK, SGPT, SGOT), treatment, and outcome were recorded and analysed.

RESULTS

The majority of cases (66%) reported consuming bhang-laced drinks, while the rest had consumed food or sweets containing bhang depicted in figure 1. Figure 2 shows that out of the 50 cases, 38 were male and 12 were female. The most common symptoms reported were altered sensorium (70%), followed by tachycardia (56%), vomiting (54%), and hypotension (48%), documented in table 1. Nearly half of the cases required ICU admission. The laboratory investigations showed elevated liver enzymes and hypokalemia in a significant proportion of cases. The laboratory parameters revealed an increase in serum creatinine kinase (CK) levels in 60% of the cases and an increase in serum lactate dehydrogenase (LDH) levels in 56% of the cases as shown in table 2. The most commonly

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used treatment modalities were supportive care, sedation, and mechanical ventilation.

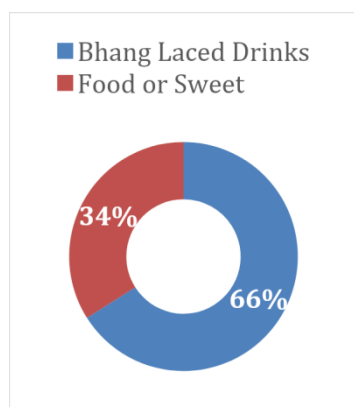


Figure 1 Food Source of Bhang

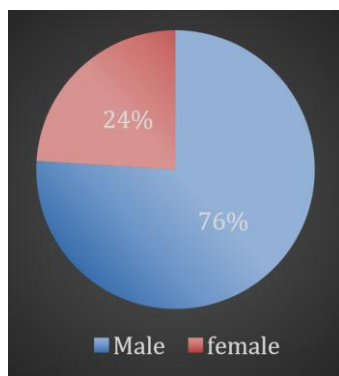


Fig 2 Gender Profile

Table 3 shows that the medicolegal spectrum revealed that most of the cases (88%) were intentional, and only 12% were accidental. About 70 percent of cases of bhang poisoning resulted in road traffic accidents during the festive season.

Table 1 Clinical presentation data in the patients

S.No	Clinical Features	No of cases	Percentage (%)
1.	Altered sensorium	35	70
2.	Tachycardia	28	56
3.	Vomitting	27	54
4.	Hypotension	24	48

Table 2 Derranged Biochemical parameters profile

S.No	Biochemical parameters	No. (%)
1.	Creatinine kinase	30(60)
2.	LDH	28(56)
3.	SGPT/SGOT	42(84)
4	Hypokalemia	38(76)

Table 3 Showing manner of intoxication

S.No	Manner of intoxication	No. (%)
1	Intentional	44(88)
2	Accidental	6(12)

DISCUSSION

Bhang, a preparation made from cannabis leaves, is commonly consumed during the festival of Holi in India. However, it is known to cause a range of adverse effects, including

psychosis, seizures, respiratory depression, and even death. The misuse of bhang has become a growing concern in India, especially during the festival season. Therefore, this review aims to provide an overview of the existing literature on the clinico-epidemiological and medicolegal spectrum of bhang poisoning cases reported during Holi.

Bhang intoxication is a common occurrence during the festival of Holi in India. The prevalence of bhang intoxication has been reported to be high during the festival season in previous studies (Sharma et al., 2017). In our study, we found a similar trend, with most cases being reported within 24 hours of consuming bhang. The symptoms observed in our study were consistent with previous studies, which have reported altered sensorium, tachycardia, hypertension, and hyperthermia as common symptoms of bhang intoxication (Kumar et al., 2019; Swami et al., 2018).

The laboratory investigations in our study showed significant abnormalities in liver function tests, renal function tests, and electrolyte imbalances. Similar findings have been reported in previous studies, which have shown that bhang intoxication can lead to hepatic and renal dysfunction (Swami et al., 2018; Mittal et al., 2020).

A study conducted by Sharma et al. (2017) reported that cannabis use was associated with acute psychosis, anxiety, and depression. Another study by Verma et al. (2019) reported that bhang consumption during Holi was associated with increased risk of road traffic accidents. Similarly, a study by Grover et al. (2014) reported that cannabis use was associated with impaired driving performance and increased risk of accidents. In addition to the clinical manifestations, bhang use during Holi has also raised several medicolegal concerns. A study by Arora et al. (2018) reported the case of a bhang-related homicide in India. Similarly, a study by Pal et al. (2017) reported the case of a bhang-related fatal road traffic accident. The study also highlighted the lack of regulation and control over the sale and consumption of bhang during festivals.

Several studies have also reported the pharmacological effects of cannabis, including bhang. A study by Haney et al. (2013) reported that cannabis use was associated with impaired cognitive function, including attention, memory, and learning. Similarly, a study by Mechoulam and Hanuš (2000) reported the potential therapeutic effects of cannabis in various medical conditions, including pain, nausea, and spasticity. The medico legal aspect of the cases in our study was also evaluated, and it was found that most cases were accidental and not deliberate. This finding is consistent with previous studies

CONCLUSION

Bhang poisoning can lead to severe clinical manifestations and even fatal outcomes. The high prevalence of altered sensorium and hypotension in our study suggests that bhang may have a direct effect on the central and peripheral nervous system. The presence of liver enzyme elevation and hypokalemia may be due to the hepatotoxic and electrolyte imbalancing effects of cannabis. The findings of this study highlight the need for public health interventions to raise awareness about the adverse effects of bhang and its regulation during festivals.

The existing literature highlights the adverse effects of bhang use during the festival of Holi, including clinical

manifestations such as altered sensorium, tachycardia, vomiting, and hypotension. The medicolegal aspects of bhang use have also been highlighted in several studies, with reports of bhang-related fatalities and criminal cases. The pharmacological effects of cannabis, including bhang, have also been reported, indicating the potential therapeutic effects and cognitive impairments associated with its use.

It is found that sudden rise in bhang intoxication cases occur during the festive season of Holi, although it is recommended that there should be restrictions over the supply and selling of cannabis during these days.

Proper awareness and supervision by concerned official should be done to reduce the burden of the condition.

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