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# Poisoning While Traveling (Transport Poisoning): Is It A New Entity?

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## Abstract

Objective: Poisoning is one of the most hazardous public health problems in Bangladesh, causing major morbidity and mortality. Although self harm is claimed as commonest mode of poisoning but recently travel related poisoning is alarmingly increasing.

Methods: This is a prospective observational study done in Chittagong Medical College Hospital in one medicine unit where transport related poisoning cases were seen.

Results: 440 number of poisoning cases amongst which Organophosphorus compound poisoning were 98 and poisoning happened while traveling is 32 cases. There was no female victim. Most of the victims related to journey happened while they were in bus(64.5%), train, rickshaw, taxi. All of the victims presented in the hospital with complete disorientation; Most of them suffer from central depression for variable period without any other specific feature of toxication. Various methods and various food items have been applied for homicide.

Conclusions: The personal and social harassment of transport poisoning cannot be ignored. It needs intensive public notification and awareness about the possible health hazards while in travel.

## INTRODUCTION

Poisoning is an important health problem in Bangladesh leading around 16000 episodes and 1500 deaths per year (Bangladesh Health Bulletin 1996). Induced poisoning by robbers during travel and using public transport is an emerging social and public health emergency in Bangladesh,

which has not been adequately addressed before. The trends of pattern of induced poisoning from Dhutura to unidentified stupefying agent particularly during journey is a major concern of health care facility(1). The miscreants usually offer food and drinks during chat while in travel. The victims get trapped, become drowsy and unconscious. The

miscreant then easily robs the valuable things and let the victim helpless with no money and no identity. Usually Police or some kind people bring them to the hospital. This is a very painful experience for the victim, doctors, nurses, and the police concerned. The incidence of this type of induced poisoning in cities like Dhaka, Chittagong, Rajshahi, Khulna is increasing during religious festival time like Eid ul fitr, Eid ul azha, Durga Puja.<sup>(2,3)</sup> Definite diagnosis is not always possible. Standard guidelines and facilities with ICU for case management is limited. Rehabilitation is limited especially for the victims who are confused and certainly embarrassed with the scenario.

There is no clear cut data about travel related poisoning as no remarkable studies has been done in this issue<sup>(4)</sup>. On average, 1-2 patients with induced poisoning during journey used to get admitted during festival . (Uddin M J et al 2002, Jain A et al 2000). Few papers and common experiences from working hospital showed that the mode of poisoning is usually food like green coconut water, soft drinks, tea, coffee, biscuits, fruits, fruit Juice, jal mori, iftari, for the purpose in bus, train, launch, railway station, maxy stand, bus stand. Sometimes they offer medication of low price for some diseases like skin disease, asthma, hemorrhoids. Use and methods of delivery of poisons is also not uniform An attempt of recording the induced poisoning during travel was attempted in 1999 in a tertiary care hospital naming Chittagong Medical College Hospital(CMCH) in Bangladesh.

## METHODOLOGY

### STUDY SITE

The study was performed in the adult medicine unit at the Chittagong Medical College

Hospital (CMCH) in Chittagong, Bangladesh. The hospital is a 1000 bed tertiary referral

hospital for Chittagong City and the surrounding districts covering around 10 million

populations.

The study received approval from the Ethical Review Committee of the CMCH. From all

patients informed written or verbal consent was taken.

## STUDY POPULATION AND METHOD

This is a prospective observational study . The unconscious patients attended by police

or other rescue peoples were included initially. During hospital stay and on clinical and

laboratory investigation if it revealed the patient is having different disease are

automatically excluded. Patients with known neurological disorder were also excluded.

Observation and routine questioners was done after recovery.

## DATA ANALYSIS

All data are recorded by data entry clerk and analysis was done using EP info 6 manual

statistical package.Means( $\pm$  Standard error of the mean), median(range) and percentage

were used to describe the parameters.

## RESULTS

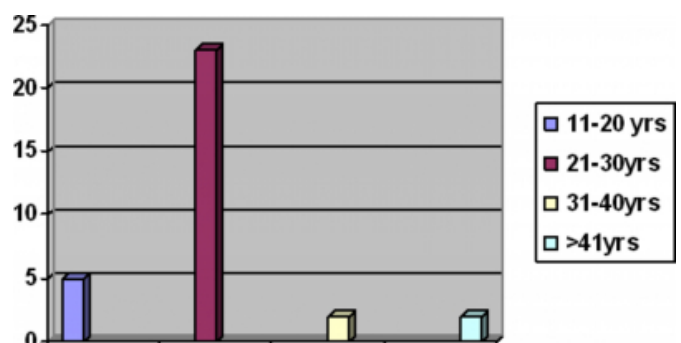
### AGE DISTRIBUTION

The highest incidence of poisoning was among the people aged between 21-30

years(74.19%). Only 12% victim are above 30 yrs of age.(Table 1)

**Figure 1**

Table 1: Age distribution in transport poisoning



Sex distribution : In this study, 100% cases were found male victim.

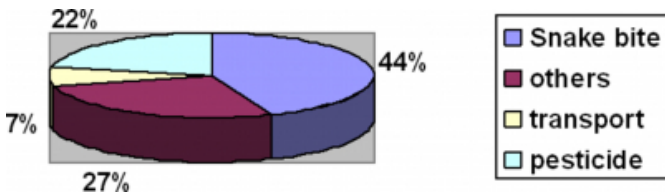
**TYPES OF POISONING**

In 1999 in one adult medicine unit total poisoning Cases were 439 amongst which OPC

poisoning was 98 and Transportation related poisoning was 31.(Table 2)

**Figure 2**

Table 2: Types of poisoning



**MODE AND PATTERN OF INDUCED POISONING**

The agents used were tea, coffee, biscuit, dab water, cold drinks, fruit, fruit juice, betel

nut, jhal mori, khejur etc in bus, train, launch, railway station, maxy stand, bus stand.

Majority (70%) of people were made stuporus with dab water, soft drinks and tea.

Smaller percentage of victims were offered with betel leaf with nut, cream biscuits, fruit

juice.

**CIRCUMSTANCES OF INDUCED POISONING IN CMCH**

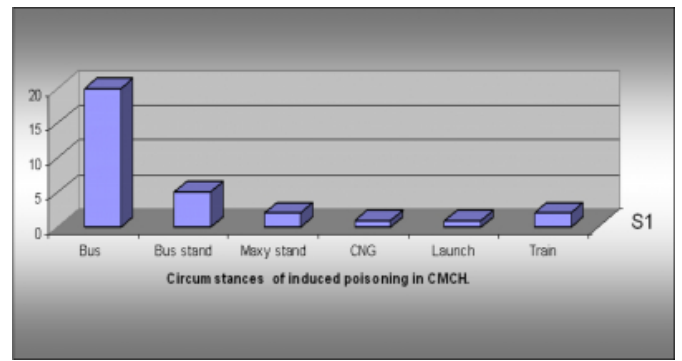
Majority of victim were traveling through buses (64.5%). Few were found in bus

stand in unconscious states(16%). Train and maxy(minibus) stand (6.45%) were also the

site where incidence happened occasionally. A few cases(3.22%) were rescued from

CNG(taxi) and launch ghat.(Table 3)

**Figure 3**



**RESCUER OF INDUCED POISONING PATIENT IN ONE UNIT OF CMCH**

Victims were initially rescued by police (83.87%) in most cases. Only 6.13% cases were

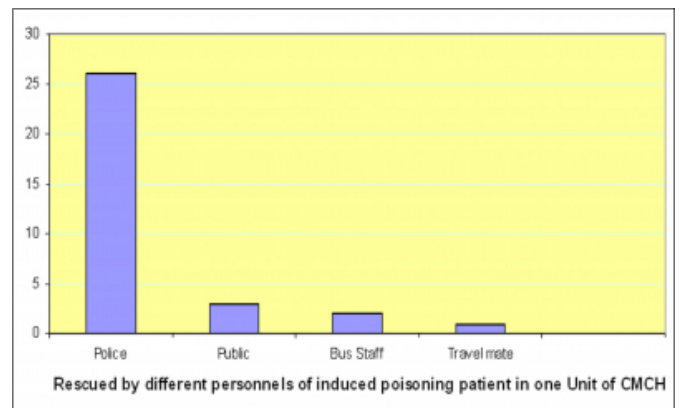
rescued by other peoples including bus helper or stuff, passenger or pedestrian. The

police then got them admitted through emergency into Hospital and no cases received

any treatment prior to admit in public hospital.(Table 4)

**Figure 4**

Table 4: The rescue people for victims



**PERIOD OF INCIDENCE IN INDUCED POISONING**

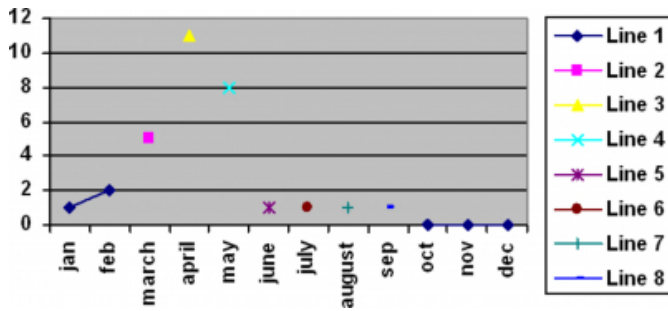
These patient are admitted throughout the years but interestingly more during summer

Season. Sixty four percent were admitted in April and June of 1999. There was no case

during October to December.(Table 5)

Figure 5

Table 5: The seasonal variation of induced poisoning



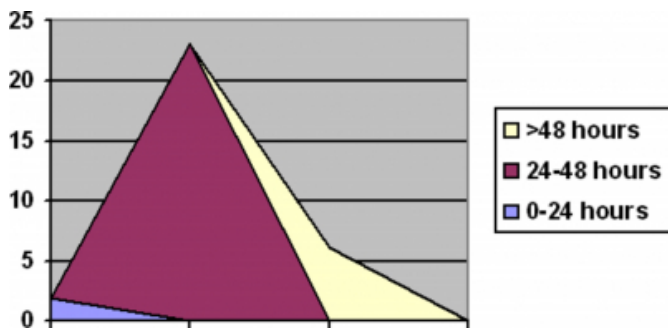
**DURATION OF HOSPITAL STAY OF INDUCED POISONING IN ONE UNIT OF CMCH**

Most of the patients(74.19%) were discharge within 48 hours after admission

Uneventfully. Among others 19.13% left hospital beyond 48 hours.(Table 6)

Figure 6

Table 6: duration of patient stay in hospital



**DISCUSSION**

Among the 439 admitted poisoning cases(including snake bite) in a single unit of medicine in CMCH, the transport related poisoning or transport poisoning is increasing enormously. In 1999, 31 cases of such incidence were admitted in this unit. The age incidence is in between 21-30 yrs( 74.19%) which is also consistent with the similar report from same hospital[3].Another hospital based data revealed the incidence around 82% in age group of 11-30 yrs(5). Possibly the adult age is easy to communicate by miscreants and sharing of food items is a good custom in journey adopt by this age group of people ,leading to vulnerability of incidence. There is exclusively male sex pre- ponderance in induced poisoning cases ~ 100% in this hospital study. It differs from result of nationwide survey of poisoning in 2002 in which male female ratio was 59.4% : 40.6% (Nationwide survey of pattern of poisoning in Bangladesh - unpublished). The similar study in Dhaka Medical College

Hospital showed male 86% and female 14%(5). It indicates the nature of our ladies not to chat or share food stuffs with unknown people in journey or may be the miscreants are exclusively male. The fundamental religion based life style may rescue the victim as females are not seem to be affected by transport poisoning. The incidence of pesticide during study period Jan-Dec,1999 was 22% and transport poisoning? was 7%, which is alarming as there was no such records in national data even in 1996.During festival, the transport related poisoning was even more than pesticide(55.86% to 44.14%) in one study in same hospital(3).

Majority (70%) of people were made stuporus with dab water, soft drinks and tea. The similar results were seen in a Hospital in New Delhi (Jain A et al 2000) (6)and also in CMCH(3) because these items are familiar with this group of victims, popular as fast food, cheaper to buy , easily available and widely accepted. Beside these, many other food items were also used by miscreants so that innocent victim cannot simply categorize the item for avoidance. Sometimes they offer medication of low price cost for some disease like skin disease, asthma, hemorrhoids. Majority of victim were traveling through bus( 64.5%) and few were rescued from launch ghat and train. Possibly they didn't have their own vehicle or enough money to travel through taxicab or vehicles which can cover short distance of travel. Incidence of induced poisoning occurs usually when the victims returns home from office. Probably at that time they are hungry and thirsty and took dab water, tea, biscuit, jhal mori, etc as part of friendly chat. Moreover they might have salaries with them during the incident and more relaxed especially during festival period. Victims are initially rescued by police in 83.87% and bus staff and others in 16.13%. The police got them admitted through emergency into public hospital. The rescue by fellow journey man are lacking. This is because people are unaware of the situation and not interested to handle with such type of patients, or in hurries in daily lives. Hundred percent of victims did not receive any prior hospital treatment - which indicates people with financial crisis is still dependent on the service of government hospital. The similar picture were also observed in Dhaka Medical College Hospital(DMCH) in one study(5). Most of the victims had lost their valuables including money, cell phones, wristwatches, rings, cards, official documents. This nature depicts the purpose of miscreants. Possibly the miscreants act in groups in different places and maintains chain of incidence and thereby making the people

and police fool and rob their valuable in regular basis. The victims are admitted more during summer season indicating people are usually thirsty due to hot weather and received offer easily after chatting with unknown person (Hospital records).

Majority of victims are unconscious within 30 minutes of ingestion of offered substance because hypnotics used are absorbed quickly from gut and acted rapidly on central nervous system to make the person stuporous. Similar effect was described by Jain A & Bhatnagar MK (2000). The interval time between poisoning and hospital admission was 4 hours in 83% of patients. This is similar to a study in DMCH, where 44.5% were admitted beyond four hours (5). The patients are usually managed in hospital floor of a working medicine unit. Only a few patients had accompanying relatives with them. Hospital facilities, logistics and staff could not cope with such unidentified admitted patients. Young trainee doctors and nurses managed the patients with resource limitations. Usually this type of victim does not require specific treatment other than maintenance of nutrition, fluid replacement and nursing care. Almost all patients were given stomach wash as a part of management of general poisoning, which did not reveal any significant gastric aspirate color. This indicates the emergency department is not yet concerned with the management of this sort of poisoning. (7,8). Almost all patients recovered fully without any residual neurological deficit. Some of them are absconded from hospital probably due to social and medico-legal suffering. There was no fatality observed among suspected induced poisoning in this study. Fortunately most of the patients can be discharge within 48 hours after admission (74.19%) which is consistently seen in large hospitals of Bangladesh where more than 60% discharge occurs within 24hours (5). Laboratory investigations including haemogram, Urine routine examination, Kidney function test, Random blood sugar, ECG are unremarkable.

### CONCLUSION

There are some peculiarity of Travel Related Poisoning as unknown (unidentified)

person are brought to hospital by police or by citizens, having adult male predominance

with good outcome. There is difficulty in diagnosis (clinical suspicion) with other

confusion states and also difficulty in identifying the offending agent in suspected

cases. There is difficulty in management and also in rehabilitation due to financial

problem with intense psychological embarrassment. The incidence is increasing and

pattern is changing day by day as urbanization is going on. Community-based study is

essential to focus the problem and uniform guidelines is to be built about management.

Special measures should be taken for management of individual cases. The facility of

chemical identification of the induced poisoning should be made available for more

effective, specific treatment of the patients rather relying on supportive treatment only. A

separate poisoning care room close to emergency department could be set up which can

be utilized by all admitting adult medicine units in Medical College Hospitals for

improved management of poisoned cases. Steps should be taken by law-enforcing

agencies to identify the offending agents and culprit by vigilance. Social mobilization for

safe travel needs to be created. It needs intensive public notification and awareness about

the possible health hazards while in travel.

### ACKNOWLEDGEMENTS

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### ETHICAL APPROVAL

The study received approval from the Ethical Review Committee of the CMCH. From all

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