

# Care seeking behavior of the victims of unintentional injuries: A community-based study in a community development block of Purba Bardhaman District, West Bengal

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## ABSTRACT

**Background:** Care-seeking after injury episodes is generally associated with major uncertainties concerning its incidence, care, and cure/disappearance, and the price of care. Though the utilization pattern of the population is shaped by social, economic, cultural and political factors, it varies widely for the rich and the poor. With this background, a community-based epidemiological study was conducted to determine the care-seeking behavior of victims of unintentional injuries. **Methods:** A cross-sectional study was conducted from May 2023–September 2023 in the Bhatar block of Purba Bardhaman district, West Bengal. Cluster random sampling was applied to select a required sample of 555 individuals from 24 villages. Study tools used were predesigned and pretested schedules developed by the researchers with the help of guidelines for conducting community surveys on injuries provided by the World Health Organization (WHO). The study had approval from the Institutional Ethics Committee. Descriptive statistics were performed using SPSS V16. **Results:** Out of 49 injury episodes, 51.0% had received first aid. Out of 39 injury episodes seeking medical attention, a traditional practitioner, healer or bone setter was the type of first medical contact in the case of the majority of injury episodes (38.5%), followed by a hospital (35.9%). **Conclusion:** Low utilization of government healthcare facilities is a cause for concern. Reliance on unqualified informal healthcare providers is also a cause for concern. Our findings will help design community interventions to increase the provision of appropriate first aid in unintentional injuries.

**Keywords:** Care-seeking behavior, injuries, unintentional

## Introduction

Care-seeking after injury episodes is generally associated with major uncertainties concerning its incidence, care, and cure/

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disappearance, and the price of care. On the supply side, uncertainty in the occurrence of illness, as in the case of injuries, shrinks the choice of care and imposes a higher financial burden on the affected. Though the utilization pattern of the population is shaped by social, economic, cultural and political factors, it varies widely for the rich and the poor. Consumption patterns of the poor might be fraught with a range of sub-optimal conditions such as under-dosage of medicines and foregoing of certain critical medical interventions altogether due to their inability to

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pay, and the absence of adequate support mechanisms. When there exist price barriers to access, possible effects on equity, as obvious, are a definite negative. With regard to the utilization of health services, the weaker sections suffer due to both time and monetary price. Even though the prescription pattern of the provider is influenced by the economic status of the injured or his/her insurance status or the presence of third-party financing mechanisms, there are a number of cases where due to economic constraints the injured under-consume or even forego the consumption of required medical interventions. The process of underutilisation or unutilisation of essential and needed interventions affects the patients to incur a higher expenditure later or worsen the health outcomes immediately or in the long run. With this background, a community-based cross-sectional study was conducted to determine the care-seeking behavior of victims of unintentional injury cases in a community development block of the Purba Bardhaman district, West Bengal.

## Materials and Methods

A community-based cross-sectional study was conducted from May 2023 to September 2023 in Bhatar block which was randomly chosen from a total of 23 community development blocks of Purba Bardhaman district, West Bengal. The Bhatar block consists of 14 Gram Panchayats and 107 villages. Study subjects were all individuals of all age groups who resided in the households of the study area at least for 6 months before the actual conduction of the study. Those who were not found even after two visits, were not willing to participate in the study and were found as guests or visitors in the households were excluded from the study.

No published literature was available regarding the prevalence of unintentional injury in the Purba Bardhaman district or any other district of West Bengal in spite of an extensive PubMed search. However, Chowdhury *et al.*,<sup>[1]</sup> in a study in the “Bairag” Union of Anwara upazilla in the Chittagong district of Bangladesh (which has almost similar socio-cultural context as of India), found that the prevalence of unintentional injury was reported as 6.3%.

Based on these data, considering 6.3% prevalence ( $P = 0.063$ ), 95% confidence interval, the absolute error of 3% ( $d = 0.03$ ), design effect 2 and 10% dropouts; using the formula  $Z^2(p)(1-p)/d^2$ , the minimum effective sample size was 555 members of households. As estimated by a pilot study, the average number of members in a household was 4. Thus, total number of households required was  $(555/4 = 138.75)$ , that is, 139. Households were the primary sampling unit.

The cluster size usually corresponds to the number of households the researcher can cover in one day according to “Guidelines for Conducting Community Surveys on Injuries and Violence” by the World Health Organization (WHO).<sup>[2]</sup> It was estimated that the number of households that can be covered in one day is six based on a pilot study experience and other feasibility issues. Therefore, the cluster size was six households and the total number of

required clusters (villages) was  $139/6 = 24$  (approx.). Therefore, from these 24 villages (clusters), 144 households were included.

Cluster random sampling (CRS) technique was applied to select the required number of households. A village was considered a cluster. Twenty-four clusters were identified for the study out of 107 villages applying the principles of population proportion to the size and methodologies of cluster sampling. These 24 clusters were Nuta, Orgram, Bigra, Banpash, Ratanpur, Kashipur, Jharul, Eruar, Kapshor, Basuda, Mahachanda, Karjjana, Belenda, Bhatar, Bamsor, Balgona, Kalapahari, Purbba Ramchandrapur, Dhenria, Nasigram, Bara Belun, Katari, Shunur and Kubajpur.

Six households were selected from each of these selected 24 clusters in the second stage. From the central point of each village, any one of the lanes was selected randomly in any direction, and consecutive six households were selected for data collection. In the selected households, all members fulfilling the eligibility criteria were included as study subjects.

A predesigned and pretested schedule was developed by the researchers with the help of guidelines for conducting community surveys on injuries and violence by the WHO.<sup>[2]</sup> This was used as a study tool.

Any unintentional injury that required seeking medical attention (both from registered and non-registered medical practitioners) or to stay away from work or study or restrictions of activities of daily living for at least 1 day was recorded as an injury event in the study. Unintentional injuries were operationally defined as injuries, which were not homicidal or suicidal. All intentional injury cases, iatrogenic injuries including birth injuries, impairment and/or disabilities due to a disease other than injury or accident, and minor/trivial injuries were excluded from injury events. Minor and trivial injuries were operationally defined as injury events when home remedies themselves were sufficient and there was no absenteeism from school or work or there were no restrictions on activities of daily living.

The purpose and nature of the study were briefed to the members of the households. Informed consent was also obtained before data collection. The study had approval from the Institutional Ethics Committee. Information regarding household characteristics, demography, SES, and other relevant information was collected from any senior member in the selected household. The injury event was collected from individual members (victims). In the case of a child who was unable to give a correct description of the injury event, it was collected from the caregiver. A separate schedule was used to record each episode of injury. The head of the household or household member who knew most about the injury was interviewed as a proxy respondent if the injury victim was absent at the time of the interview. All cases of unintentional injuries that occurred in the last 3 months preceding the date of the interview were recorded. Relevant records were also reviewed if available and necessary information was noted in the schedule.

Data were analyzed using Statistical Package for Social Sciences (SPSS) 16.0 version software (SPSS, Inc, Chicago, IL, USA). Descriptive statistics were applied where necessary.

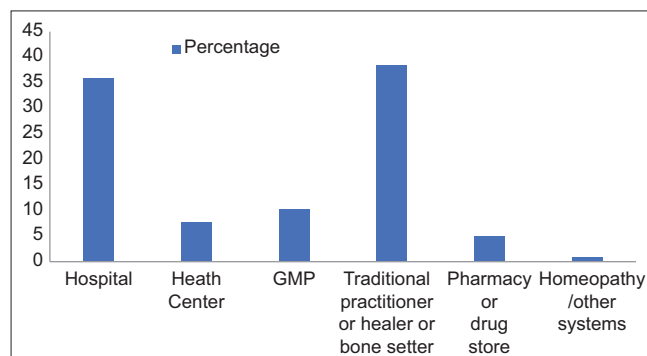
## Results

### Care-seeking behavior of the injury victims

Forty-nine study subjects had unintentional injury in the last 3 months and all of them had a single episode of injury. So, the total number of injury episodes was 49. Out of 49 injury episodes in the last 3 months, 51.0% had received first aid. Out of 25 injury episodes receiving first aid, first aid was provided by family members in the maximum number of injury episodes (32.0%) [Table 1]. In 20% of the injury episodes, the first aid provider was a traditional practitioner, healer or bone-setter. In 16% of cases, the first aid provider was a friend. In 16% of cases, it was a neighbor. In 8% of cases, it was a bystander and in 8% of cases, the first aid provider was a teacher in the present study.

Out of the total 49 injury episodes, medical attention was sought in the case of 79.6% of episodes. In the case of 20.4% injury episodes, medical attention was not sought. Out of 39 injury episodes seeking medical attention, a traditional practitioner, healer or bone setter was the type of first medical contact in the case of the majority of injury episodes (38.5%), followed by hospital (35.9%) [Figure 1]. A general medical practitioner was the first medical contact in 10.2% of the injury episodes. Health center was the first medical contact in 7.7% of the cases, pharmacy or drug store was the first medical contact in 5.1% of the cases, and homeopathy or other systems were in 2.6% of the cases in the present study.

Out of 49 injury episodes, 24 (49.0%) were admitted to hospital. Besides, 14 injury episodes where the type of first medical contact was a hospital, one injury episode with first medical contact in a pharmacy or drug store, four injury episodes with first medical contact as a general medical practitioner, three injury episodes (health center), one injury episode (traditional practitioner or healer or bone setter), and one injury episode (homeopathy) subsequently got admitted to



**Figure 1:** Distribution of injury episodes seeking medical care according to type of first medical contact (n = 39)

hospital. Out of the total of 24 injury episodes in which hospital admission was performed, in 75.0% of the cases, the duration of hospital stay was up to 5 days, and only in 25.0% of the cases it was for 6–10 days.

Out of the total 39 injury episodes seeking medical care, in 25.6% of the cases, the place of first medical contact was >10 km away from the house [Table 2]. In 25.7% of the cases, it was within 500 m of the house, and in 23.1% of cases, the distance was 500 m to 1 km from the house. For most of the injury episodes, the time taken to reach the place of first seeking medical attention was less than 1 h. In 20.5% of cases, the time taken was 3–6 h. In 25.6% of the injury episodes, the time taken to reach the place of first medical contact was 1–2 hours. In 24.5% of the injury episodes, money had to be borrowed for the treatment of the injured person.

## Discussion

Injury as a research problem has been largely ignored in developing countries. Rural and urban development in transition exposes households to unsafe environments. With advances in modern medicine and control of infectious diseases in the middle of this century, accidents have emerged as the principal threat to the health and welfare of people.<sup>[3]</sup>

Out of 39 injury episodes seeking medical attention, a traditional practitioner, healer or bone setter was the type of first medical contact in the case of the majority of injury episodes (38.5%), followed by hospital (35.9%) in the present study. A general medical practitioner was the first medical contact in 10.2% of the injury episodes. Health center was the first medical contact in 7.7% of the cases, pharmacy or drug store was the first medical contact in 5.1% of the cases and homeopathy or other systems were in 2.6% of the cases in the present study.

**Table 1: Distribution of injury episodes according to first aid provider at the time of injury (n=25)**

Person giving first aid	Frequency	Percentage
Bystander	2	8.0
Friend	4	16.0
Family	8	32.0
Teacher	2	8.0
Neighbor	4	16.0
Traditional practitioner or healer or bone setter	5	20.0
Total	25	100

**Table 2: Distribution of injury episodes seeking medical care according to the distance of the place of first medical contact (n=39)**

Distance	Frequency	Percentage
<500 m	10	25.7
500 m–1 km	9	23.1
1–10 km	10	25.6
>10 km	10	25.6
Total	39	100

In a community-based cross-sectional epidemiological study of injury in a rural community in Bangladesh by Rahman *et al.*<sup>[1]</sup> it was found that out of 429 injuries, 62.5% received first aid, and 97.2% received any form of treatment, 34.1% required hospital admission. In the health facility, 65% were treated at the outpatient department, 29.2% were admitted and 4.6% were referred to higher-level referral facilities. The majority of the people sought treatment from a village, doctor or drug shop, 22.6% went to upazilla health complex, 10.7% went to a private hospital, 8.4% went to a district or medical college hospital and 2.1% had to go to a specialized hospital. Among other options, 5.4% went to community clinics, 3.7% went to a union sub-center and in 2.6% of cases, services were brought home.

In a study by Pathak *et al.*,<sup>[4]</sup> 729 (67%) injured children received first aid, and 758 (70%) sought some form of health care. Most children (52%) sought health care from a private healthcare facility; most children (65%) were transported to a healthcare facility within the golden hour.

Netra *et al.*<sup>[5]</sup> conducted a study in which they observed that on sustaining an injury, 24% of study subjects visited private hospitals, 23% visited government hospitals, whereas a few (3%) sought health care from both government and private hospitals. About one-fourth (26%) of the study participants who sustained injury had taken no treatment at all because of the minor injuries that did not require treatment in a health facility. Also, 22% were found to have taken self-medication or treatment at home with home remedies such as turmeric, oil massage, applying toothpaste for minor burns, etc., and 2% sought healthcare from a traditional healer.

Godwin *et al.*<sup>[6]</sup> found that 54% of the injured choosing public health care institution as their first point of contact.

Cole *et al.*<sup>[7]</sup> found in their study, that amongst those with injuries, 37.6% did not seek care from any care provider and were more likely to seek treatment within the family, at home or church.

One of the important limitations of this study is rooted in its reliance on self-reporting by respondents. The accuracy of respondents' answers cannot be independently verified. The accuracy of recall is also influenced by memory decay. There is a high chance of recall bias particularly for less serious injuries. The use of proxy respondents in the absence of first-choice respondents tends to lead to underreporting of injury events and

care-seeking behavior. In addition, if a respondent is answering on behalf of more than one individual, memory decay might be more extensive.

## Conclusion

Low utilization of government healthcare facilities is a cause for concern. Reliance on unqualified informal healthcare providers is also a cause for concern. The findings of this study will help design community interventions to increase the provision of appropriate first aid in unintentional injuries.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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