Study of Demographic and Clinical Profile of Injuries Related to “Kite Flying” Celebration in Urban India

Bhavesh Jarwani1, Mehul Gajjar2, Urjita Modi2, Rajvi Patel3, Rohan Parekh3, Sanket Nandani3

Financial Support: None declared
Conflict of Interest: None declared
Copy Right: The Journal retains the copyrights of this article. However, reproduction is permissible with due acknowledgement of the source.

How to cite this article:

Author’s Affiliation:
1Associate professor; 2Assistant professor; 3Resident, Emergency Medicine, Smt. NHLMMC, Ahmedabad

Correspondence
Dr. Bhavesh Jarwani
bhaveshjarwani@hotmail.com

Date of Submission: 25-05-2020
Date of Acceptance: 17-07-2020
Date of Publication: 31-07-2020

INTRODUCTION
Kites were first introduced by the Chinese more than three thousand years ago1 and were flown to bring good luck, they are flown worldwide to enjoy leisure pass time, but in places like India, Pakistan and Afghanistan2, Kite flying is celebrated in unique way. People try hard to get the kites of other cut down and cheer on achieving this.

It is also an instinct to catch the threads of the “Cut-Kite” and rejoice the gain2. The common name of kite in Pakistan and India is “Patang”. Different kinds of kites are made with tissue type paper and bamboo. In some parts of India, it is a celebration two days, but kids start flying kites months before. However, in this excitement, many lose control and seemingly harmless festivals turn into epidemic of accidental injuries.

“MakarSankranti” is the day when the glorious Sun-God begins to ascend and enter into the Northern Hemisphere (Sanskrit: “Uttarayaan”). In Gujarat, the kite festival is strongly embedded in local culture and cuts across religious differences.

To fly the kite, a special string, coated with combination of ground glass and water soluble glue is used which is called “Manja”. “Manja” sharply cuts the skin and underlying structures when comes in contact3.

While a few articles narrate the spectrum of kite-flying celebration related injuries, this article attempts to give the complete picture of such demographics and injuries overview.

MATERIAL AND METHODS
Study Design- cross sectional observatory study conducted at the Emergency department of a tertiary care hospital. Data of all cases of kite flying related injuries admitted were collected in preformatted from. Study population, patients visiting in trauma centre, V.S. general hospital. This study was done in a tertiary care hospital with attached trauma centre, which caters the ur-
ban population. The study was conducted during the period of two year from 1st December 2016 to 31st January 2018.

Inclusion criteria: All patients presented to Emergency Department and consented were enrolled in this study.

Statistical method: Data was entered into Microsoft Excel 10.0 and analysed using EPI2k.

RESULTS

During the study period number of cases studied were 83. There were more than 233 injuries during the same period. However, in many cases the forms were not properly filled up, or the patients denied consent. Hence the data represent a small but significant chunk of the group.

Table 1: Age wise distribution of the cases (n=83)

| Age group (yrs) | Cases (%)
|-----------------|-----------
| <10             | 17 (20.48)
| 11-20           | 21 (25.3)
| 21-30           | 18 (21.69)
| 31-40           | 15 (18.07)
| 41-50           | 5 (6.02)
| 51-60           | 4 (4.82)
| 61-70           | 2 (2.41)
| >70             | 1 (1.2)

Table 2: Various indicator for study participants

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Cases (n=83) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time of Incident</strong></td>
<td></td>
</tr>
<tr>
<td>Night time (00 to 6 am)</td>
<td>1 (1.2)</td>
</tr>
<tr>
<td>6 am to 12 pm</td>
<td>17 (20.48)</td>
</tr>
<tr>
<td>12 pm to 6 pm</td>
<td>42 (50.6)</td>
</tr>
<tr>
<td>6 pm to 12 am</td>
<td>23 (27.71)</td>
</tr>
<tr>
<td><strong>Height from where injuries took place</strong> (n=37)</td>
<td></td>
</tr>
<tr>
<td>Fall on Ground*</td>
<td>14 (19.28)</td>
</tr>
<tr>
<td>Fall from 1 storey building</td>
<td>12 (20.48)</td>
</tr>
<tr>
<td>Fall from 2 storey building</td>
<td>9 (10.84)</td>
</tr>
<tr>
<td>Fall from 3 storey building</td>
<td>2 (2.41)</td>
</tr>
<tr>
<td><strong>Mechanism of Injury</strong></td>
<td></td>
</tr>
<tr>
<td>RTA</td>
<td>26 (34.22)</td>
</tr>
<tr>
<td>Fall</td>
<td>34 (40.96)</td>
</tr>
<tr>
<td>Falls because of string</td>
<td>3 (3.61)</td>
</tr>
<tr>
<td>string injuries</td>
<td>20 (22.89)</td>
</tr>
<tr>
<td><strong>Mode of transport to the hospital</strong></td>
<td></td>
</tr>
<tr>
<td>EMRI (108) ambulance services</td>
<td>57 (68.67)</td>
</tr>
<tr>
<td>private ambulance</td>
<td>5 (5.82)</td>
</tr>
<tr>
<td>Auto Rickshaw</td>
<td>15 (18.07)</td>
</tr>
<tr>
<td>Other</td>
<td>6 (7.23)</td>
</tr>
<tr>
<td><strong>Admission from emergency dept</strong></td>
<td></td>
</tr>
<tr>
<td>ENT</td>
<td>2 (2.44)</td>
</tr>
<tr>
<td>Admitted in Neurosurgical ward</td>
<td>13 (15.85)</td>
</tr>
<tr>
<td>Ortho</td>
<td>10 (12.76)</td>
</tr>
<tr>
<td>Surgery</td>
<td>1 (1.22)</td>
</tr>
<tr>
<td>OPD based treatment</td>
<td>56 (68.29)</td>
</tr>
</tbody>
</table>

Maximum cases (n=57, 68.67%) arrived in EMRI (108) services that shows the mature and trusted pre-hospital care provided by 108 (EMRI)

Of the victims, 56(68.29%) had mild cut, bruises and lacerations and they were treated on “Out Patient” basis. 13 (15.85%) were admitted in neurosurgical care, among these 2 had EDH, 1 had contusion and 4 had fractures skull or facial bones. 2 had cut throat neck injuries. Among these seriously injured patients, 2 had died. 20 were admitted for indoor treatment.

Among orthopaedics cases 12 had fractures and 3 had strain if we include both upper limb and lower limb injuries. One patient required blood transfusion and one required multiple transfusions, 3 victims had DL spine injuries. 1 had pneumothorax and 1 had hemoperitoneum

DISCUSSION

Celebration of kite flying takes place during the festival of “MakarSankranti-Uttarayan” in the states of Gujarat and Rajasthan in India and during the Basant festival in Peshawar, Pakistan1,2.

Injuries during kite flying commonly sustained either by kite-flyers, kite-runners (to catch the cut kites), riders of two wheelers and among the pedestrians. Injuries related to flying kites can be indirect like falls from height during kite flying to direct injuries by this “Manja”1.

Of 83 cases we studied, 67 (80.72%) were male and rest 16(19.28%) were female. This shows male dominance
and male preference of celebrating with more vigour and heightened excitement.

Maximum patients were in the age group of 11-20 (n=21, 25.30%) and 21-30 years of age group (n=18, 21.3%). However, we had significant cases among children less than 10 years of age. This number is very high compared to other studies conducted in India. This shows children in urban Ahmedabad need to be take care of very seriously during this festival.

Maximum incidences occurred in afternoon and evening period, showing the peak of excitement during this time period and parents should particularly take care during this period.

Fall from the height (n=34, 40.96%), Road traffic accidents (n=22, 32.62%) were the commonest mode of injuries and amongst them string was one of the common culprit. The same observation was found in other studies. Hence to spread of awareness among the enthusiastic is very important during this festival.

In this study we tried to find the cause of falls in urban area and to our surprise, we found that 2 victims had history of fall from the terrace having no walls. This underlines the importance of awareness among public of such mishaps. However incidences of fall were noted from 1, 2 and 3 storeyed buildings irrespective of terrace wall. There were incidences of fall-down on the ground due to toppling and brawls among the children were also noted. This suggests to be cautious and calm is only remedy here.

Maximum cases (n=57, 68.67%) arrived in “108 Ambulance” services that shows the mature and trusted pre-hospital care provided by “108” and their service is vital during such celebration.

13(15.85%) were admitted in neurosurgical care, among these 2 had EDH, 1 had contusion and 4 had fractures skull or facial bones. This was consistent with other studies. Among bone and soft tissue related injuries, 12 had long bone fractures and 3 had strain only. Same observation is seen other studies as well. 2 victims had cut throat neck injuries. Other studies had significant cut throat injuries. May be cause of the protective gear two wheels apply now day in Gujarat particularly, where this study is conducted.

2 had died. 20, 3 had DL spine injuries and 1 and pneumothorax and 1 head hemoperitenum. Few case reports and studies also suggests such incidences during such festival across countries. Kite string injuries are not only fatal to humans but birds too. Every year in the month of January during the “MakarSankranti” festival a lot of birds like pigeons, crows etc. including these endangerd vultures are injured or have suffered serious injuries to life and wing.

CONCLUSION

This study show that still in urban India, people are celebrating this festival casually, like flying kites carelessly on terraces without proper wall. Kids run with unwary enthusiasm and hence parent needs to be more vigilant. This study strongly suggests the authorities should run awareness programs well before the festive mood sets in.

LIMITATION OF THE STUDY

Small number of cases studied and single urban centre study are the main limitation.

REFERENCES

7. Dr.Soha. A. Ghasura, A study on Haddon matrix injury prevention: targeting kite flying hazards in community International Journal of Multidisciplinary Research and Development, 2016;3(2); 70-72
10. Manish Jaiswal, et al., Department of Neurosurgery, King George’s Medical University, Lucknow, U.P., INDIA Analysis of Traumatic brain injury related to Kite flying festival: An institutional study.