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### Study of medico-legal cases in tertiary care center in barak valley, Assam

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#### Abstract

**Background:** There is phenomenal increase in medico-legal cases all over the world and India is not an exception to it. India being a third world country, medico-legal cases is a huge burden to the health care system. Barak valley is the southern part of Assam mainly comprising of three districts Cachar, Karimganj and Hailakandi. Patients from not only these three districts but also from the neighboring states like Mizoram, Meghalaya, Tripura and Manipur are taken care at the tertiary care center, Silchar Medical College of Cachar district.

**Materials and Methods:** A record based retrospective study was done at tertiary care center Silchar Medical College, Cachar. Only cases reported during the period of 1<sup>st</sup> Jan 2017 to 31<sup>st</sup> Dec 2019 were analyzed. Incomplete records and those found non medico-legal Cases were excluded. Results are expressed by various methods of descriptive statistics and analysis was done.

**Results:** A total number of 40,855 cases were recorded from 2017 to 2019 and following things were observed. In 2017, number of cases noted was 13,441, out of which 9,544 cases were from Cachar; 2,748 cases were from Karimganj and 1,416 cases were from Hailakandi. In 2018, number of cases noted was 13,398, out of which 9,415 cases were from Cachar; 2,467 cases were from Karimganj and 1,212 cases were from Hailakandi. In 2019, number of cases noted were 14,016, out of which, 8,752 cases were from Cachar, 2,154 cases were from Karimganj and 2,536 cases were from Hailakandi.

**Conclusion:** There is an increase in the trend of medico-legal cases from the last three years. Most of the victims were between age group of 20-30 years. Road Traffic Accident was the major cause of medico-legal cases, followed by physical assault.

**Keywords:** Medico-legal, road traffic accident, physical assault, casualty

#### Introduction

Barak valley is the southern part of the Assam, mainly consisting of three districts. Most of the people stay in rural areas and agriculture is the main occupation. Silchar medical college and hospital is the tertiary care center in this region. Primary and secondary health care centers are not equipped well enough to cater health care to the medico-legal cases. Hence, most of the medico-legal cases are being referred to the Silchar medical college and hospital. Moreover, private hospitals are not keen to entertain ML cases.

Cachar district has a total area of 3786 sq.km. Total population of Cachar district is 17.3 lakhs. Sex ratio is 958. And the literacy rate is 80.36%. 81.83% people live in rural area while 18.17% in urban areas. Density of population in Cachar district is 460 per sq.km.

Karimganj district of Barak valley has a population of 12.17 lakhs with a density of 673 per sq.km. Sex ratio is 961. And the literacy rate is 86.35%. Rural population comprises of 91.07% while the urban population comprises of 8.93%. Karimganj district has an area of 1809 sq.km.

Hailakandi district has an area of 1327 sq.km. Total population of Hailakandi district is 6.51 lakhs, with a density of 497 per sq.km. Sex ratio is 951. Literacy rate of Hailakandi district is 74.33%. 92.7% of the people live in rural area while only 7.30% people live in urban areas.

All the above mentioned demographic data are from Census report of the year 2011.

#### Materials and Methods

A record based retrospective study was done at the tertiary care center, Silchar Medical College, Cachar. All the medico-legal cases reported during the period of 1<sup>st</sup> Jan 2017 to 31<sup>st</sup> Dec 2019 were included in the study except the cases with incomplete records. Data related to

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age, gender, cause of injury, time of arrival and address were collected from our Medical records department of our hospital. Results are analyzed by various methods of descriptive statistics. Results and observations were expressed in frequency and percentage.

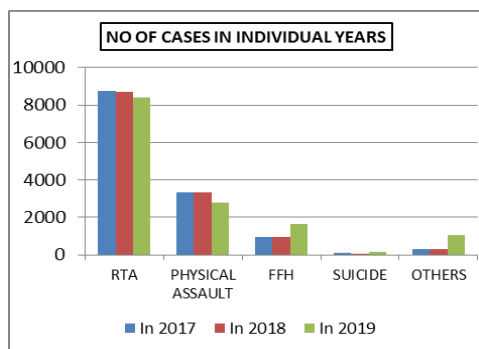
## Results

According to our analytical study most of the MLC were due to road traffic accident. Total number of road traffic accident which occurred between 1<sup>st</sup> Jan 2017 to 31<sup>st</sup> Dec 2019 was 25,876 and 9,505 cases were due to physical assault. Total number of RTAs in 2017 was 8,747 and in 2018 were 8710, and 8419 cases were noted in 2019.

Table 1 and Chart 1 shows the number of various MLCs registered during 2017 to 2019. Total number of cases noted was 40855. Total number of cases noted in 2017, 2018 and 2019 are 13441, 13398 and 14016 cases, respectively. Other causes of MLC includes burns, fall of heavy object, work place injuries.

**Table 1:** No. of cases in individual years

Cases	In 2017	In 2018	In 2019
RTA	8747	8710	8419
Physical Assault	3356	3351	2798
FFH	934	952	1627
Suicide	87	80	142
Others	317	305	1030

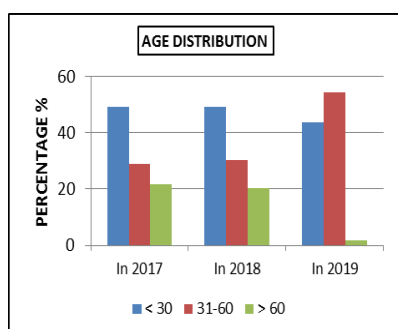


**Chart 1:** No. of cases in individual years

Table 2 and Chart 2 show the distribution of cases according to the age. Maximum number of cases was seen in patients aged <30 years, followed by individuals in 30-60 years age group.

**Table 2:** Age distribution in individual years (in %)

Age Group	In 2017	In 2018	In 2019
< 30	49.25	49.38	43.74
31-60	29.05	30.47	54.56
> 60	21.7	20.15	1.6

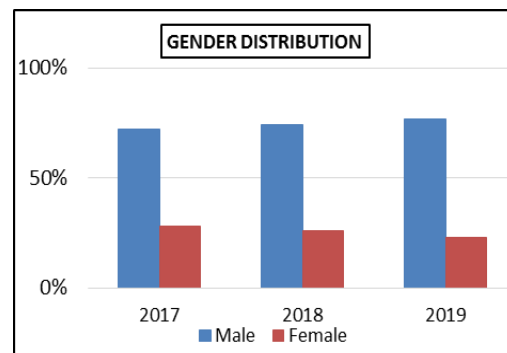


**Chart 2:** Age Distribution in Individual Years (in %)

Table 3 and Chart 3 show the gender distribution of cases. Male contributes 73.66% of the total MLC.

**Table 3:** Gender Distribution (in %)

Year	Male	Female
2017	72	28
2018	74	26
2019	77	23

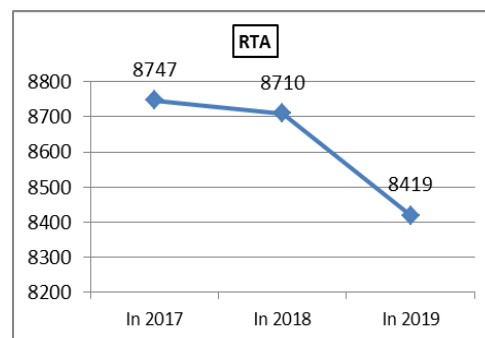


**Chart 3:** Gender Distribution (in %)

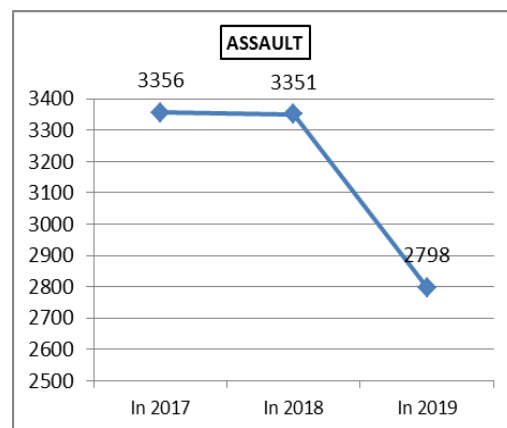
Table 4 and Chart 4-6 show the pattern of MLC cases reported. RTAs are predominantly seen in 63.33% of cases, followed by physical assault (23.26%) and fall from height (8.59%). In the year 2019, we have witnessed a jump in the number of suicidal cases by 20% when compared to number of cases in 2018.

**Table 4:** Trend of mode of injury

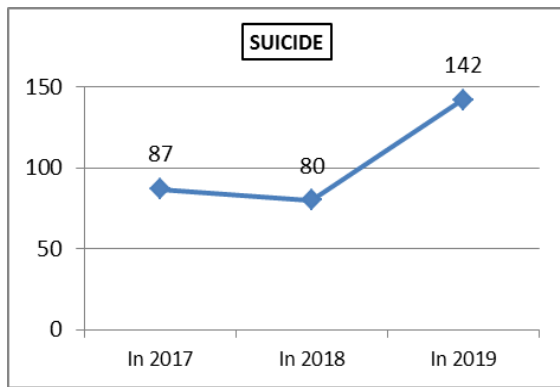
No. of cases	In 2017	In 2018	In 2019
RTA	8747	8710	8419
Assault	3356	3351	2798
Suicide	87	80	142



**Chart 4:** Trend of RTA



**Chart 5:** Trend of physical assault

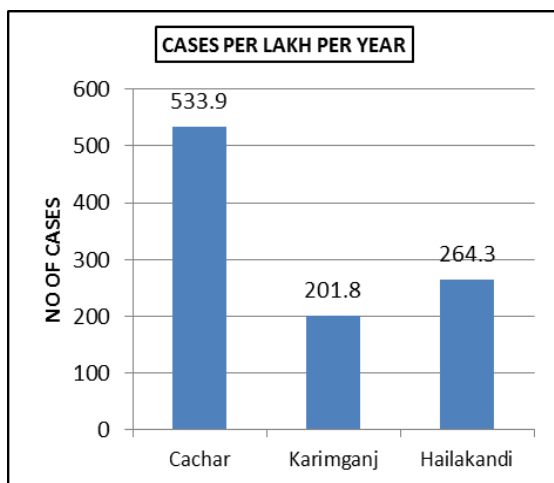


**Chart 6:** Trend of Suicide

Table 5 and Chart 7 show the cases per lakh population per year.

**Table 5:** Cases per lakh per year

District	Cases per lakh per year
Cachar	533.9
Karimganj	201.8
Hailakandi	264.3



**Chart 7:** Cases per lakh per year

## Discussion

The present study indicates that there is an increase in MLC cases during the past three years. Males (74.41%) are more affected when compared to females (25.58%). This confirms with the study conducted by Dileep Kumar R *et al* [1], Santhosh Chandrappa Siddappa *et al* [2], Timsinha *et al* [3] and Brahmanekar TR *et al* [4]. This might be due to the fact that the males are more exposed to vehicles and outdoor activities. The most common age group is 20-30 years. This agrees with studies conducted by S. N. Hussaini *et al* [5], Muhammad Amjad Bhatti *et al* [6], Haridas *et al* [7] and Santhosh Chandrappa Siddappa *et al* [2]. By analyzing the cases it is observed that maximum number of MLC are RTA followed by assault. This agrees with the findings of Dileep Kumar R *et al* [1], Timsinha *et al* [3], Hussaini *et al* [5], Trangadia MM *et al* [8], Yatoo G H *et al* [9]. Cachar district contribute to the maximum MLC (67.82%) followed by Karimganj district (18.03%).

## Conclusion

Our present study shows that there is increase in the trend of MLC from the last three years. Most of the victims are male in the age group of 20-30 years and RTA contributes for the

major cases of MLCs. By implementing strict traffic rules, creating awareness among the people and improving the condition of roads, we can reduce the number of RTAs.

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