

ORIGINAL ARTICLE

A Profile on Medico-legal Cases Reported at a Tertiary Care Centre in the Coastal Town of South Karnataka

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Abstract:

The National Medical Council of India has officially renamed Casualty as Emergency Department and as the name suggests it is equipped to handle any incoming trauma into a hospital. Some cases unlike others have a legal aspect to it apart from it being a medical emergency. A retrospective cross-sectional of medico-legal cases recorded from 1st January 2020 to 31st December 2021 was conducted at Kasturba Medical College and Hospital, Manipal. Through this study, such cases labeled medico-legal are evaluated based on Age, Gender, and Type of Cases. Consequently, aim to reduce the frequency of such cases reported, by understanding the risk factors at the helm and thus aid in spreading awareness among the general public to curtail the causative factors so responsible.

Keywords: Medico-legal; Tertiary Care; Road Traffic Accidents; Assault.

Introduction:

A center which is specialized to provide the highest level of care and is equipped to handle any incoming trauma is designated as a tertiary care center.¹ The cases that arrive through the emergency department have varying characteristics. It can be purely a medical emergency or it can also have a legal implication to it.

The protocol dictates that if the doctor decides after obtaining a history and physical examination that a case should be labeled as medico-legal, then the police should be intimated accordingly, for further investigation into the incident.^{2,3} The following process is by not just the treatment protocol, but also the reports and samples collected in correspondence with evidence collection formalities.⁴ There also exists a possibility that any such documentation obtained may be called into question before the Court of Law and the doctor thus becomes an expert witness under section 45 of the Indian Evidence Act (IEA).⁵

It is intended that this study will form the framework of the current orientation of the categorization of Medico-legal cases reported in such demography. Statistics regarding the frequency of such cases along with factors such as gender, age, etc. play a vital role in creating a blueprint of the existing scenarios in a population. Factors such as circumstance do play a role, however, if a pattern can be identified from the population, then efforts could be made to prevent such recurrent happenings. Studies, in turn over a geographical area, over a period can directly or indirectly be used to map the conditions existing in a country. This consecutively helps public administrators, other Non-

Governmental Agencies, and welfare workers to implement policies for the betterment of the community.

Material and methods:

This is a retrospective, cross-sectional study pertaining to the medico-legal cases reported at Kasturba Hospital, Manipal, Karnataka over a span of 2 years, commencing from 1st January 2020 to 31st December 2021.

The procedure followed included:

- i. Details collected from existing records such as the Accident Registers, Police intimation reports, and the patient's case files.
- ii. The details so collected are entered in a predetermined proforma consisting of variables required for analysis.

Inclusion criteria included all medico-legal cases reported during the interval under consideration, while all non-medico-legal cases of the same duration were excluded. The data has been analyzed statistically and the results are represented in the form of frequency tables, graphs, and charts. Statistical analysis of data was done and presented as results and observations in tabular form, graphs, and charts.

Institutional Ethical Clearance has been obtained from the concerned authorities. The data acquired through this study has been anonymized and is not shared with anyone outside the study team to maintain confidentiality.

Results:

During the two years, a total of 8475 cases were recorded under the medico-legal label, reported at Kasturba Hospital Manipal. They were analyzed in terms of Gender (Figure 1), Age groups (Figure 2), and the type of cases (Figures 3 and Table 1-2). As per the results obtained, there is not much difference in the number of cases reported during either year, but a small difference of 2.4%

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Table 1. Distribution of cases based on gender.

Type of Case	Cases Reported (in Number)		
	Male	Female	Others
Burns	103	60	0
Physical Assault	107	24	0
Sexual Assault	2	29	0
Road Traffic Accidents	3981	1057	2
Poisoning	368	255	0

Table 2. Distribution of cases based on age.

Type of Case	Cases Reported in Number			
	<18	18-25	26-40	41 & above
Burns	43	25	43	52
Physical Assault	5	29	54	43
Sexual Assault	23	7	1	0
Road Traffic Accidents	250	1363	1534	1893
Poisoning	87	159	190	187

Table 3. Comparative study done by different authors with the present study.

Author	Number of Cases	Duration	Gender	Most Reported Type of Case	Risk-prone Age Group
Dr.Dake Rajesh et al. ⁶	1050	2	M	Road Traffic Accidents	21-40
Ashwini Kumar and Rajiv Joshi ⁷	1850	1.5	M	Road Traffic Accidents	21-30
Partha S. Bhattacharyy et al. ⁸	355	2	M	Road Traffic Accidents	26-50
Nikhil Jagtap and Manoj B Patekar ⁹	2450	2	M	Road Traffic Accidents	21-30
Dr. Manju et al. ¹⁰	8615	3	M	Road Traffic Accidents	20-30
Bharath Kumar Guntheti and Uday Pal Singh ¹¹	1312	1	M	Road Traffic Accidents	20-40
Ajmad Iqbal Burq et al. ¹²	3105	1	M	Road Traffic Accidents	21-30
Mohammed Sarwar Mir et al ¹³	2250	1	M	Road Traffic Accidents	21-30
Santhosh Chandrappa Siddappa and Anupam Datta ¹⁴	4066	1	M	Road Traffic Accidents	21-30
Dileep Kumar et al ¹⁵	173	1.5	M	Road Traffic Accidents	21-30
Vishal Garg and Dr S.K. Verma ¹⁷	784	2	M	Road Traffic Accidents	21-30
Present Study	8475	2	M	Road Traffic Accidents	41 and above

with 48.80% (4136) cases reported in 2020 followed by 51.20% (4339) cases in 2021. Among the categories under consideration, the category 'Others' with 2487 (29.35%) cases encompasses everything from different kinds of Bites (including snake bites, dog bites, and rat bites), Falls (slip and fall), industrial accidents, injuries while playing and unresponsive or brought dead cases.

In the comparison of the cases on a monthly basis, in the year 2020, the most cases reported were in the month of January with 584 cases, however in 2021 the most cases were reported in the month of March with 540 cases. The month with the least cases reported in 2020 was April with 182 cases and in the year 2021, May had the least number of reported cases with 181 cases. The outcome obtained from the study has been represented in the form of pictorial representations.

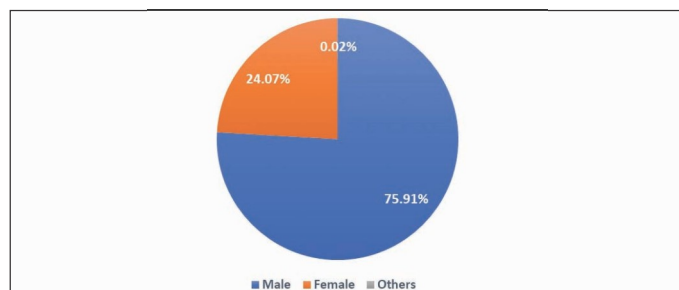


Figure 1. Pie chart depicting gender-wise distribution of medico-legal cases.

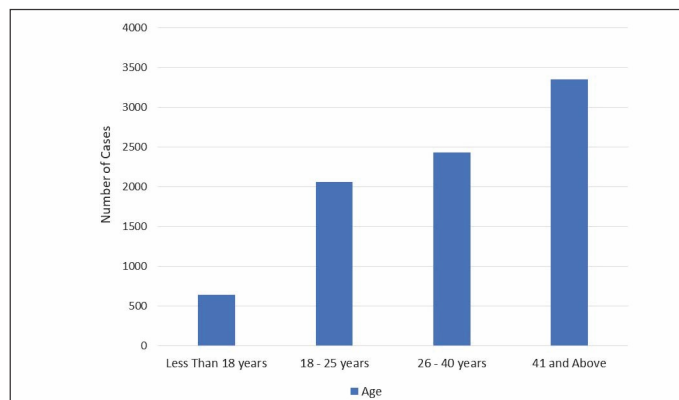


Figure 2. Bar diagram depicting age-wise distribution.

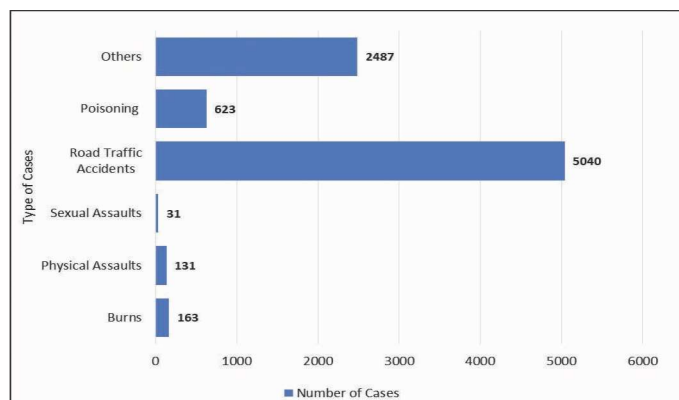


Figure 3: Bar diagram depicting the distribution of medico-legal cases.

Discussion:

As per this study, the number of cases registered, male victim population was 6433 (75.91%) which is considerably higher than that of the female population (Figure 1). This conclusion is in accordance with the study done by multiple other authors such as Dr. Dake et al.,⁶ Ashwini Kumar and Rajiv Joshi,⁷ Partha S. Bhattacharyy et al.,⁸ Nikhil Jagtap and Manoj B Patekar,⁹ Dr. Manju, et al.,¹⁰ Bharath Kumar Guntheti and Uday Pal Singh,¹¹ Ajmad Iqbal Burq, et al.,¹² Mohammed Sarwar Mir et al.,¹³ Santhosh Chandrappa Siddappa and Anupam Datta,¹⁴ Dileep Kumar et al.,¹⁵ Abhishek Yadav and N.K. Singh¹⁶ Vishal Garg and Dr S.K. Verma¹⁷ etc.

This could be because of the male-to-female ratio or also because males are more predisposed to working outside, especially in India, hence increasing their chances of getting hurt. The most

risk-prone age as concluded from this study is 41 and above, which is extremely different from any of the information existing (Figure 2). Though this town primarily contains a student population, however, most of the cases reported in all the categories consistently remained much more in this age group as compared to others. The present study also depicts the fact that most of the cases are reported in the category of Road Traffic Accidents (Figure 3) which coincides with the result of the study conducted by Dr. Dake et al.,⁶ Ashwini Kumar and Rajiv Joshi,⁸ Partha S. Bhattacharyy et al.,⁷ Nikhil Jagtap and Manoj B Patekar,⁹ Dr. Manju, et al.,¹⁰ Bharath Kumar Guntheti and Uday Pal Singh,¹¹ Ajmad Iqbal Burq, et al.,¹² Mohammed Sarwar Mir et al.,¹³ Santhosh Chandrappa Siddappa and Anupam Datta,¹⁴ Dileep Kumar, et al.,¹⁵ Vishal Garg and Dr. S.K. Verma,¹⁷ etc.

In studies reported by Dr. Tanuja Brahmanekar et al.,¹⁸ Ashwini Kumar, and Rajiv Joshi,⁸ Physical Assault occupies the majority of cases reported, however as per his current study Physical Assault accounts for only 1.55% of total cases that has been reported. One of the reasons responsible for such an increase in road traffic accidents is because more vehicles are used by people and the non-adherence to traffic rules and regulations which can indicate a lapse in law enforced by law enforcement officials. Sexual Assault cases unlike the other cases show a greater incidence rate in the female population (93.55%) (Table 1) as per the present study which is congruent with studies carried out by S Saravanan et al. (62.6%)¹⁹ Umar Nadeem et al.²⁰ also puts the female victim population at a higher risk.

The monthly distribution of cases varies, hence prediction of the number of cases each month cannot be done. However, the month with the maximum number of cases reported during the study period was January 2020 with 584 cases and the lowest to be reported was May 2021 with 181 cases. Though seasonal variation does not have a pivotal role in the number of cases registered unlike the flu during flu season, monsoon tends to show an increased occurrence of skid and fall accidents. However, the climate of the region under study generally has very frequent rains throughout the year, hence seasonal variation cannot be considered as a factor for increased or decreased cases reported.

Conclusion:

The emergency department of any hospital is a place that a multitude of people visit on a day-to-day basis. The primary duty of the physicians is to treat the incoming trauma. However, some of those cases will have legal implications that require further scrutinization by law enforcement agencies to delve deeper into the incidence under question. In terms of the records being used by the public administrative department, different variables can be ascertained from the said records and can further be used as a blueprint to analyze the type of cases that is generally reported at such tertiary centers. This in turn helps them to evaluate current levels of safety in the city, identify loopholes, and find solutions to address those. Moreover, these studies can also indicate the extent to which the proposed plans such as new traffic rules, anti-drug abuse campaigns, etc. are working. Also, in terms of the age and gender associated with these analysis helps the non-

governmental organizations and the district administration working for this cause find exactly where the problem lies, and solve those instead of putting up newer generalized policies for the public.

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