

Pattern of Medico- legal Cases in the Casualty of a Teaching Hospital, Khammam, Telangana

Bharath Kumar Guntheti¹

Abstract

This retrospective study was conducted to analyze the pattern and magnitude of all the medico legal cases registered in the Emergency Department of Mamata General Hospital, Khammam; Telangana between Jan 2016 to Dec 2016. A total 1312 cases were registered during study period, 1225 were males and 87 were females. Most of the victims were in the age group 21-30 years, males, residing in urban area, belonged to low socioeconomic class and work as labourers. Our study showed that maximum number of MLCs reported to casualty was in month of November. The most of the cases reported in winter followed by Rainy season. This study revealed that Road Traffic Accidents constituted majority of 529 [40.32%] cases followed by poisoning 259 [19.74%], and least asphyxia cases 72 [5.48%]. The manner of injuries was accidental in nature in majority of cases 772 [58.84%]. Most of the patients reported to hospital within one hour of sustaining the injury / other causes. The peak time of attending to the casualty was during 12 pm to 6 pm. Maximum number of MLCs were treated on the indoor basis. Most of MLCs were registered at the time of admission. Most cases required unidisciplinary intervention. Intervention is most commonly required by General Surgery and allied Sub-specialties followed by Orthopaedics. Main objects of present study were to evaluate complete Pattern of medico-legal cases at tertiary care hospital.

Keywords: Medico legal cases, Pattern, Profile, RTA, Season, Assault, Poisoning, Casualty.

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Introduction:

Generally physician has two duties, medical and medico-legal. It is true in Indian context also. Medico-legal duties become more pertinent if physician is working in a teaching hospital. The casualty department is the very important area of any hospital. Almost all Medical and Surgical emergencies reported first to casualty department and apart from

these emergencies all medico legal cases are registered in casualty and all medicolegal formalities are required to be fulfilled here.

Medico legal case is a case of injury or illness where attending doctor after eliciting, listing and examining patient; is of opinion that some investigation by law enforcing agencies is essential to establish and fix responsibility for the cases in accordance with the law of the land. Medico legal case is a medical case with legal implications or a legal cases requiring medical expertise¹

In recent days, medico legal cases are on the rise. This may be due to increased vehicular traffic density, un-employment, high income disparities, substance abuse, and meagre

¹Professor, Dept. of Forensic Medicine & Toxicology, Mamata Medical College, Khammam; Telangana. India Pin code-5070002.

Correspondence: Dr.Bharath Kumar Guntheti
Email: bk62743@gmail.com
Contact: 9908339507

Received on 23.09.2017

Accepted on 02.05.2018

infrastructure facilities, insurance/ compensations etc.² Pattern of medico legal cases is of importance for those, who are directly or indirectly related with Law and Order, who treat them and also who are concerned with etiology, manner of causation, and their documentation.³

If pattern of cases that present to an emergency or elective setup is known, one can get better acquainted with more types of medico legal cases and have better understanding for them. As a result of which, a medical practitioner shall be more comfortable in dealing with such cases. Profiling of medico legal cases is an integral aspect for the prevention of preventable casualties in future and to study the crime rate in area.⁴

This retrospective study was conducted to analyze the pattern and magnitude of all the medico legal cases registered in the emergency department of MGH.

Aims and objectives:

To know the pattern and prolife of medico legal cases at a tertiary care hospital

To know the burden of MLCs& suggestions for improving medico legal work in casualty

Material and Methods:

This is a record based retrospective study of medico legal cases registered in medico legal register in casualty of MGH, Khammam, Telangana from Jan 2016 to Dec 2016. The total 1312 MLCs were registered in casualty.

Related general data like type of MLCs reported in casualty during this period, age, and sex of cases, profile, time of arrival, months, and season concern in arrival of MLCs were collected from medico legal register.

The collected data was analyzed, tabled and compared with previous studies and concluded.

Observations and Discussion:

In this study, a total of 1524 admitted cases were included, out of which 1312 [86.88%] were MLC and 212 [13.91%] were non MLC.

We conducted this study for analysis of medico-legal cases regarding disposition of patients in various specialties. These are consistent with observations made by other studies⁴.

In this study, maximum number of medico legal cases reported to casualty were from age group 21-30 years 722 [55.03%] followed by 31-40 years 310[23.62%] next 11-20 years 168[12.80%] and 41-50 years 66 [0.45%]. Minimum number (18) of medico legal cases reported were above 60 years, the probable reason might be this age group people were not productive age group involve themselves in indoor activities so they are less prone to accidents. Whereas 2 cases reported from age group 0-10 years. These are consistent with other authors.³⁻⁵

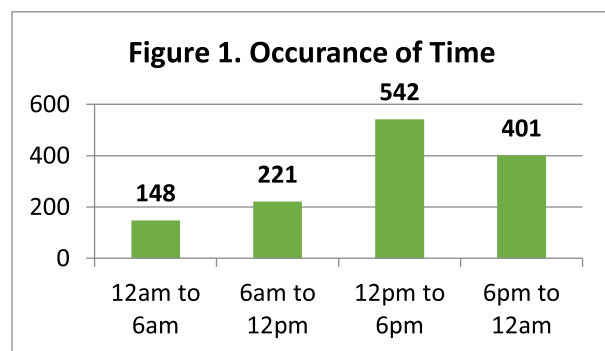
In our study, male 1125[85.74%] victims outnumbered female victims 187 [14.25%]. Male to female ratio was 6:01. Similar findings observed by authors.³⁻⁵

Our study shows that the urban population 958 [73.01%] constituted more than rural population 354[26.98%]. The probable reason might be increasing number of population in the city, and increase in the slum areas drastically within the last few years, lack of good roads, and less safety measures among people, more number of falls due to industrial mishaps, construction works and fall from buildings constitute more number of medico legal cases in urban areas in and around Khammam. Which are supported by authors.^{7,20}

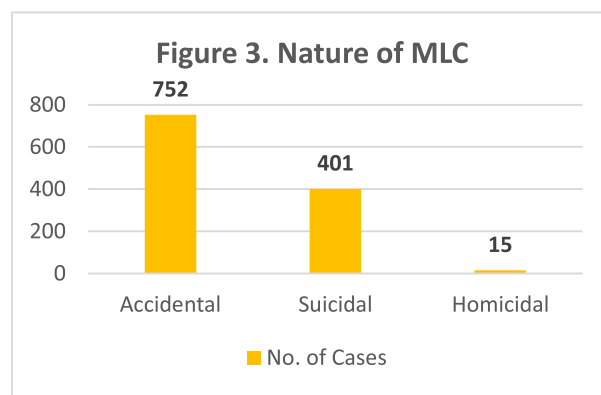
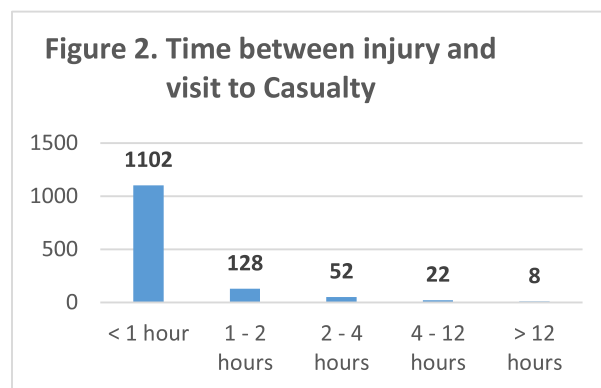
We revealed maximum numbers of victims were laborer 362[27.59%] followed by students 342[26.06%] next un-employed 284[21.64%] and house wives 132[10.06%]. There were about 70[5.33%] medico legal cases were farmer& employee in service 66[5.03%], professional 14[1.06%], and least 8 medico legal cases of others. About 1.14% of cases had own business, whereas 1.44% of medico legal cases were electricians. The probable reason for highest number of medico-

legal cases reported among laborer and unemployed victims, could be due to illiteracy, reduced awareness of Law & consequences of the act performed, personal habits like alcohol /drugs, disputes and quarrels under influence of alcohol. In case of house wives, marital disputes, extra-marital affairs, quarrels, property disputes lead to domestic violence, assaults and medico-legal case disposal. Our findings were consistent with other studies.^{7,8} In this study, maximum number of medico legal cases were reported during Winter season 510 [42.04%] followed by Rainy season 412 [33.80%] and Summer 291[23.99%]. Highest number of medico-legal cases reported to casualty were in month of November 152 [11.58%] followed by July 136 [10.36%]. The high incidence of MLCs in the winter season might be due to victims consuming alcohol to keep themselves warm, excessive sleepiness, low daylight, dense fog which were responsible for RTA cases. Whereas in rainy season less number of medico-legal cases reported because people spent most of the time at home due to rains, different activities, lack of proper care, bad environment, less day light these all responsible for accidents/ assault when compared with winter season. These are consistent with other studies⁶⁻⁹.

Our study showed that the maximum number of medico legal cases were reported to casualty in between 12 pm to 6 pm 542[41.31%] followed by 12 am to 6 pm 401 [30.56%] next 6 am to 12 pm 221[16.84%] [Figure no.1]. Similar results were made by authors.⁷⁻¹⁰



In the study, 1102[83.99%] of the medico-legal cases reported in golden hour of injury [within one hour of injury] and 128 [9.75%] reported between one to two hours [Figure no.2]. Similar observations were made by studies.^{6,10,12, 20}



In present study, we noticed that in most of the cases were manner of medico legal cases admission into the hospital was accidental 722[55.03%] followed by suicidal 391[29.80%] and 149[11.35%] cases were homicidal in nature [Figure no.3]. In present study RTAs, fall from height and electrical constitutes maximum accidental manner and there after poisoning cases contributes suicidal manner. Same results were obtained by authors.¹⁰⁻¹²

In our study, the pattern of medico-legal cases, a total of 1312 MLCs brought to casualty. Among medico-legal cases, 529 [40.32%] were RTA, 259[19.74%] were poisoning, 153 [11.66%] were thermal burns, 102[7.77%]

were fall from height, 94[7.16%] were assault, 72[3.96%] were asphyxial, 20[0.15%] were Railway accidents, 10[0.76%] were snake bite & scorpion sting 9[0.68%], 4[0.30%] cases were insect bite, 3[0.22%] were dog bite, 8[0.60%] were brought dead and remaining 57 [4.34%] were others [Figure no.4]. In our analysis of medico legal cases, concerning disposition of patients in various specialties are consistent with other studies.¹⁰⁻¹²

Out of the total 529 RTA cases, 470[35.82%] were males and 59[4.49%] were females. Maximum number of victims 481 [36.66%] were seen in the age group of 21-30 years and more than 2/3rd of victims were between 21-50 years. 236[17.98%] victims had education up to graduation. In 498 RTAs, occupants of motorcycle were victims and the commonest cause of death was head injury followed by hemorrhagic shock. This result is similar to the study conducted by others¹⁰⁻¹⁴.

We observed, in 259[19.74%] poisoning cases, 219[16.69%] were males and 40[3.04%] were females. 200 [15.247%] cases belonged to low socioeconomic class and laborer 266[20.27%] were the highest number among the victims and commonly consumed was organophosphorus compounds in 216[16.46%] cases. This present study showed that in maximum number of MLCs youth between 21-30 years age group 202[15.39%], were prone to poisoning. In most of these youth, it is suicidal intent rather than accidental. Which is similar to studies conducted by other studies^{7, 8, 9, 14}.

Out of 153 thermal burns cases, the most common cause was due to electric injuries 78[5.94%], lightning 42[3.20%] and flame with 33 [2.51%] cases, and this could be due to traditional house hold practice, lack of safety system. Same result has been reported by other authors^{8, 10-14}.

Out of 33 burn cases, 27 [2.05%] were females. Two victims had only superficial burns and the common cause of death was burns due to flame in 25 [1.90 %] cases. Whereas 6 males were accidental burns while all females were

suicidal in nature. Similar results were obtained by authors¹⁰⁻¹⁴.

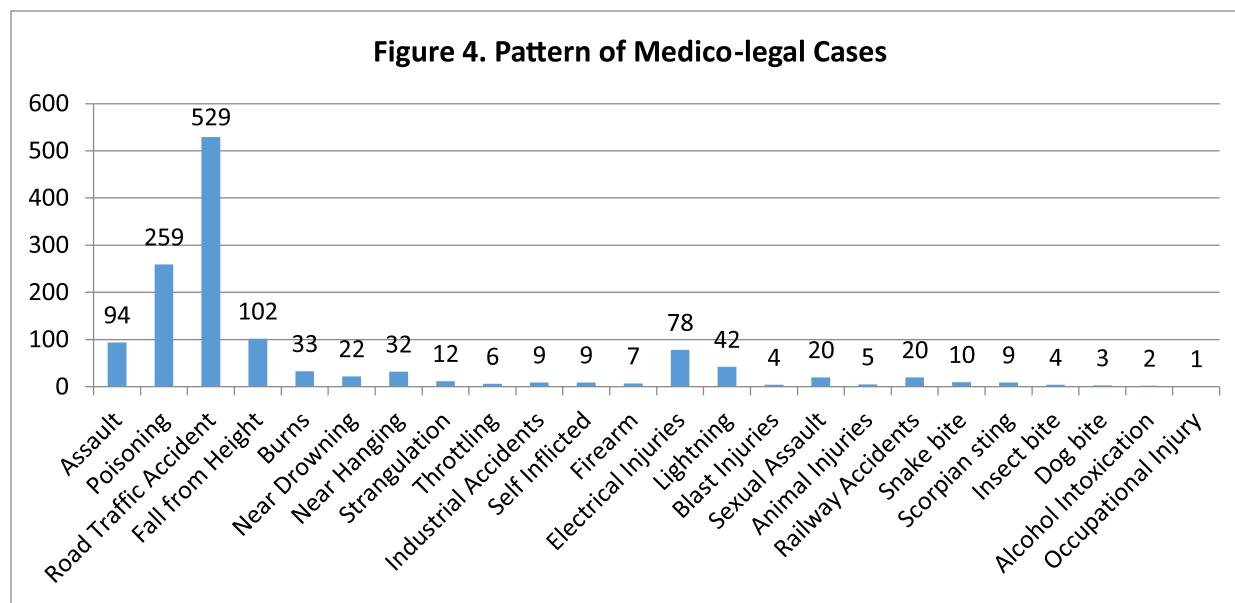
Our study showed that, 102(7.77%) MLCs were fall from height mostly during the household construction. Males were 100[7.62%] and females were 2[0.15%]. Which also reported by authors¹²⁻¹⁶.

Among 94[7.16%] assault cases, 92[7.01%] were males and it is the fact that by nature males indulge in more violent activities. The majority of 90[6.85%] medico-legal assault cases were caused by blunt weapon and head, face and neck was the most commonly injured region in 90 [6.85%] cases. The head is target of choice involving blunt trauma when the intension is to kill. These are consistent with other studies¹⁴⁻¹⁷.

Out of 72[5.48%] asphyxial cases, 52[3.96%] were males and 20[1.52%] were females. Hanging in 32[2.43%] was the common type of asphyxia followed by 22[1.67%] drowning, 12[0.91%] were strangulation and least 6[0.45%] were throttling. These are similar to other studies by authors¹². Among the victims of asphyxia, maximum number of MLCs were youth between 21-30 years' age group 37[2.82%], who are prone for asphyxia, it is suicidal intent rather than homicidal. Which are supported by authors^{10, 12, 15, 16}.

In this study, with respect to bites and stings of 26[1.98%] cases, the snake bites 10[0.76%] cases were common followed by scorpion stings 9[0.68%] and least dog bite 3, wasp and bee bites 4[0.30%]. Among bites and stings 13[0.99%] were males and 13[0.99%] were females. The neurotoxic Common Cobra were most commonly involved species in 8[0.60%] cases and the lower limb were the most common body part affected with 8[0.60%] cases. Snakebite still remains a major occupational hazard affecting productive age group predominantly males in rural area. Similar observations were noted by other studies^{10, 12, 14, and 17}.

In present study, 49 [3.73%] were other victims of medico-legal cases included self-inflicted



9, industrial 10, firearm injuries 7, animal injuries 5, blast injuries 5, occupational injuries 1, sexual assault 20 and alcohol intoxication 2. These are similar to other studies¹⁴⁻¹⁷.

Most of MLCs were registered at the time of admission 1300 (99.08%). While some cases 12 (0.91%) were made medico-legal retrograde. Similar results obtained by other studies.^{6,18,19}

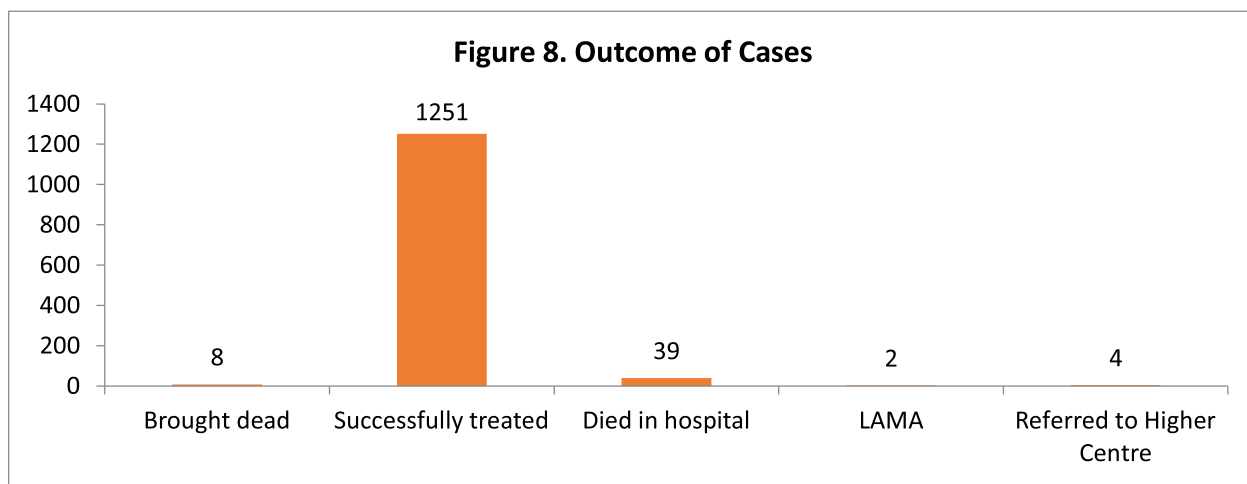
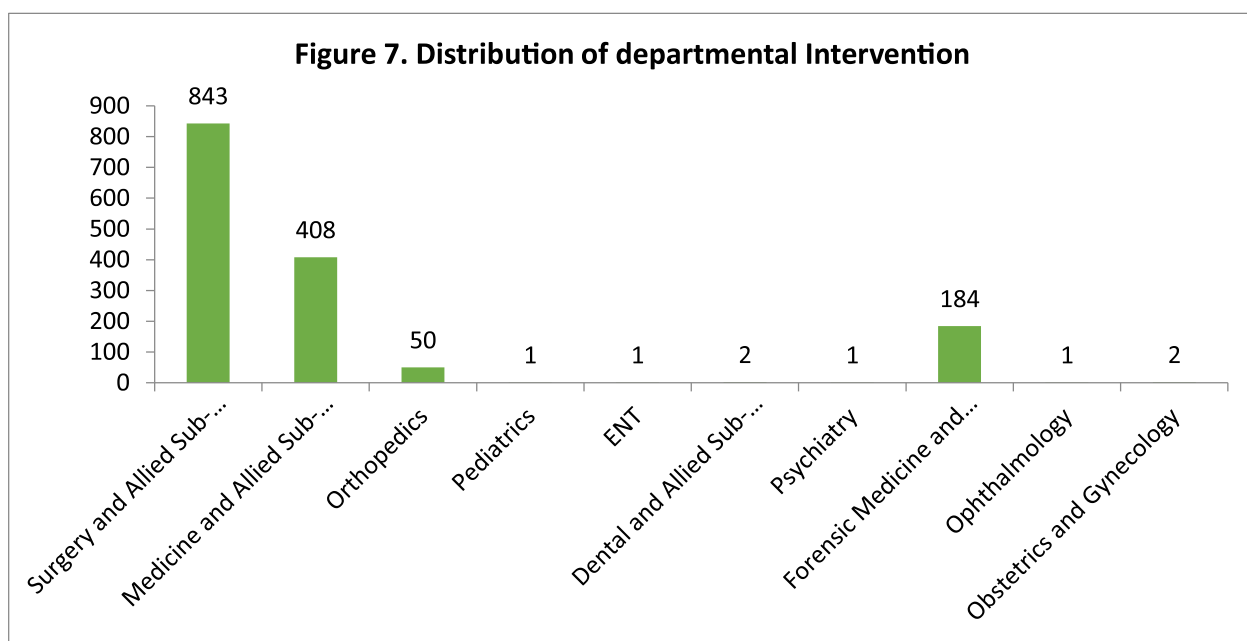
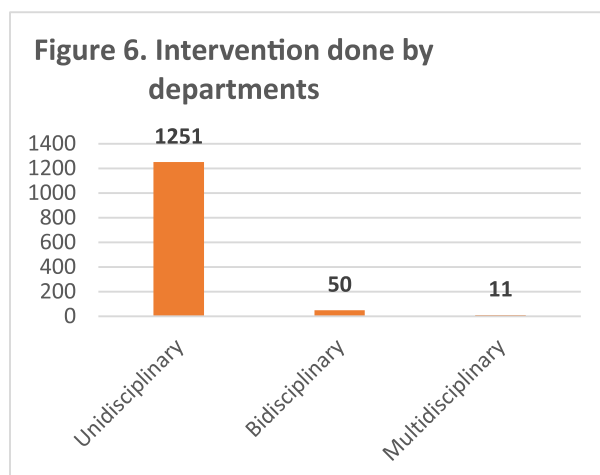
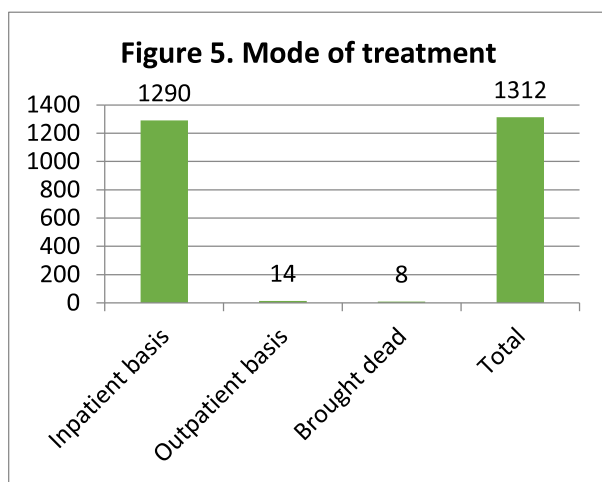
It is sensible to real the fact that even if a case had not been booked as medico-legal at the time of examination or admission into the hospital, the case may become medico-legal at a later stage. This means conversion of an ordinary case into a medico-legal case, by a late entry made in Medico-legal register. So it is denoted as retrograde MLC. This becomes inevitable when there are delayed allegation made about an assault in an injury case or some newer facts are noticed after lapse of time

In our study most of the cases were treated in indoor 1290 [98.93%] /OPD 14(1.06%) and 8[0.60%] were brought dead. Out of 429 cases of RTA 12 cases and out of 94 cases of assaults 2 cases had minor injuries, so they did not required admission and were dealt with at the OPD level [Figure no.5]. These findings were similar to authors.^{4,6,18,19}

Out of 1290 indoor cases, 843[64.25%] cases admitted in to the surgery department, because most of the cases of road traffic accidents, assaults, fall from height, some animal bite, and burns etc., were treated in to the surgery department. Where as in [201] bone fractures involved cases were treated and follow up by orthopedics department [Figure no.6], which is similar with the study by authors.^{4,6,16,19}

Opinion from expert was sought in most of the cases. Expert opinion from single department in 1079[82.24%] cases were most common; more than one department opinion was required in 233 [17.75%]. We observed that the most of the opinions were sorted from Surgery 878[66.92%], followed by Orthopedics 201[15.32%] and Medicine 191 [14.55%] departments [Figure no.7], which shows that the workload in these respective departments.^{6, 11, 18-21}

In our study, out of all the 1312 patients, 1259[95.96%] were discharged after successful treatment from the same hospital whereas 39[2.97%] hospital deaths were reported in present study. This shows that the effectiveness of the early initiation of the treatment in case of emergency [Figure no.8]. These findings were supported by other studies.^{6,11,12,18,22}



Suggestions:

The increased medico-legal case admissions might be due to an increase in accidents and violence and demand round the clock availability of hospital and prove the need for sufficient medico-legal experts at tertiary care hospital to effectively deal MLCs and serve laws of land.

Conclusion

In present study, 86.88% of casualty visits were Medico- legal in nature.

Majority of victim were of age group 21-30 years, males predominate female, urban population outnumbered rural counterparts.

Laborers top MLC admissions amongst other occupations.

Maximum number of cases reported during winter season and in the month of November.

Most of the

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