



INJURY CERTIFICATION: CORRELATION BETWEEN PHYSICAL CLINICAL FINDINGS AND MLC REPORTS

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ABSTRACT

Background: Medico-legal clinical examination of injury is imperative as it connects clinical exam to legal investigation. Poor or incomplete documentation of the medico-legal case can impact injury type, severity, mechanism and timing.

Objective: To assess the correlation between physical clinical findings and medico-legal case reports among patients presenting with injuries.

Methods: This was a cross-sectional study carried out in Saidu Medical College and its affiliated hospital in the period of January to June 2025. Using non-probability consecutive sampling technique, 72 cases of medico-legal injury cases were enrolled. A structured proforma was used to record demographic, case characteristics, physical clinical findings and findings from the medico-legal report. Findings from clinical examination were compared to the corresponding entries in the MLC report. Concordance was deemed to be complete, partial or discordant. The SPSS Statistics 26 was used for analysis of data. Categorical variables were presented as frequencies and percentages; agreement was analyzed by Cohen's kappa statistic.

Results: Among 72 cases, complete concordance between clinical findings and MLC reports was observed in 50 (69.4%) cases, partial concordance in 15 (20.8%), and discordance in 7 (9.8%) cases. Agreement was highest for severity of injury and site of injury, while documentation gaps were more common for injury size, freshness of injury, number of injuries, and probable weapon/object.

Conclusion: Physical clinical findings and MLC reports showed a generally acceptable level of agreement; however, incomplete documentation remained an important concern. Structured injury certification formats, proper injury measurement, documentation of injury age, and regular medico-legal audit may improve the reliability and legal value of MLC reports.

Keywords: Injury certification, medico-legal case, physical findings, MLC report, clinical documentation, forensic medicine

INTRODUCTION

The medico-legal certification of injury is a delicate area of clinical and forensic medicine. It is created when a person is injured and needs to be treated and the case needs to be documented. Under these circumstances, the physician will not only have to make a clinical evaluation and deal with the treatment but also have to make a record to help police, court, insurance companies, and other legal bodies in the future. A medico-legal certificate thus serves as a link between the hospital record and the legal system (1-3).

The basis of injury certification is physical examination. Nature and mechanism of trauma can be ascertained from information on type of wound, anatomical site, size, shape, tenderness, swelling, age of wound, and possible causative object. The information in these details may be useful in distinguishing the simple from the grievous injury and can be of assistance or in opposition to the patient's or attendant's history. Recent recommendations for the documentation of injuries are that the information must be accurate, complete and structured as this will increase the value of the report for the medico-legal assessment (4-6).

Quality of MLC documentation will, however, vary in routine hospital settings. There is often a high patient throughput and short time along with pressure from attendants and law-enforcement personnel in emergency departments. In such conditions, important clinical details may not be captured, inadequately described or recorded without measurements. According to a recent study carried out in Rawalpindi, Pakistan, there was a high incidence of documentation errors in the medico-legal reports, and it was concluded that there is a need for improving documentation, regularly reviewing MLC and training in the field of structured reporting of medico-legal reports (7-9).

Medico-legal reports may be incomplete or lack a good correlation, which can raise a number of issues. The report may be hard to defend in court if the physical findings are not consistent with the final opinion of the MLC. Likewise, when there is no information regarding injury dimensions, the anatomical source is not specified, radiologic evidence is not available, or the probable weapon is not reported, there is a diminished force of medico-legal interpretation. A recent forensic literature on non-fatal injuries has also highlighted the importance of the clinical recording of the injuries because that can make a difference to ensuring that legal decisions are made on the quality of the first medical report (10).

Medico-legal cases frequently come to casualty and emergency departments in Pakistan and injury certification is a routine but legally significant duty of a doctor. Several medico-legal presentations have been reported in local studies such as assaults, road traffic accidents, and gunshot wounds, falls, poisoning, and others involving trauma (11). There has been less research, however, which has specifically assessed the correlation between the information in physical clinical records and the information in MLC reports.

Therefore, the relationship between physical clinical findings and the medico-legal reports was assessed in cases of injuries attending Saidu Medical College and affiliated hospital in the present study. By identifying areas of concordance and documentation gaps, the study may help improve the quality, reliability, and legal usefulness of injury certification in routine clinical practice.

METHODOLOGY

This was a cross sectional study that was carried out at Saidu Medical College and affiliated hospital from January 2025 to June 2025. The study was designed to assess the level of agreement between physical clinical findings recorded during examination and the findings documented in medico-legal case reports.

A total of 72 medico-legal injury cases were included in the study. The sample size was determined based on the number of eligible medico-legal cases available in the study period. A non-probability consecutive sampling technique was applied and all the patients who met the selection criteria were included until the sample size was achieved.

Patients with either sex, who presented with physical injuries and needed medico-legal examination were included in the study. Cases where the clinical records were incomplete, the medico-legal reports were missing, old injuries with unclear history, brought dead cases and patients who refused consent were excluded.

Patient identity and medico-legal information was kept confidential throughout the study. All cases were given a code number and no identifiable personal information was included in either data entry or data analysis.

A structured proforma was used for data collection. Information on demographic characteristics (age, gender, residence and occupation) was collected. Other incident related data, such as type of incident, place of injury, time since injury and mode of arrival was also recorded. Physical clinical findings were noted after clinical examination, which included type of injury, site of injury, number of injuries, size of injury, freshness of injury and severity of clinical findings. In some cases, radiological results and special opinions were also documented.

The medico-legal certificate/report of each patient was reviewed separately. The information recorded in the MLC report – injury type, injury site, injury size, estimated age of injury, probable weapon or object, radiological evidence and final medico-legal opinion – was entered in the proforma. The results of the clinical findings were then correlated with the MLC report findings to establish the level of agreement between the two.

The primary outcome variable was agreement of physical clinical examinations with the MLC reports. Concordance was divided into three categories: complete concordance, partial concordance, and discordance. The full agreement between the clinical examination results and the MLC report was considered as complete concordance. Partial concordance was noted where the majority of findings were in agreement, with some information missing or not fully described. Major discrepancy between clinical findings and medico-legal documentation was defined as discordance.

IBM SPSS Statistics version 26 was used to analyze the data. The quantitative variables (age) were expressed as a mean and standard deviation; the categorical variables were expressed as frequencies and percentages. The degree of agreement between the physical assessment of the clinical findings and the clinical findings in the MLC report was computed with Cohen's kappa statistic. Where applicable, Chi-square tests were used to assess the association between categorical variables. The p value of < 0.05 was regarded as statistically significant.

RESULTS

Overall, 72 medico-legal injury cases were selected for the study. The majority of the respondents were young adults, with a higher number of males than females. The most common cause of medico-legal assessment was assaults followed by road traffic accidents.

Table 1. Demographic profile of study participants, n = 72

Variable	Frequency (n)	Percentage (%)
Age group		
18–25 years	18	25.0
26–35 years	24	33.3
36–45 years	16	22.2
>45 years	14	19.5
Gender		

Male	52	72.2
Female	20	27.8
Residence		
Urban	41	56.9
Rural	31	43.1
Occupation		
Laborer	20	27.8
Student	12	16.7
Employee	18	25.0
Housewife	10	13.9
Others	12	16.6

The age group of 26-35 years old had the highest number of participants (33.3%). Almost three-quarters of cases were in males.

Table 2. Case-related characteristics of medico-legal injury cases, n = 72

Variable	Frequency (n)	Percentage (%)
Type of incident		
Assault	34	47.2
Road traffic accident	18	25.0
Fall	9	12.5
Domestic violence	7	9.7
Occupational injury	4	5.6
Place of incident		
Road/public place	36	50.0
Home	15	20.8
Workplace	9	12.5
Other places	12	16.7
Time since injury		
<6 hours	29	40.3
6–24 hours	31	43.1
>24 hours	12	16.6
Mode of arrival		
Police accompanied	38	52.8
Self-presented	22	30.6
Referred from another facility	12	16.6

The most common type of medico-legal presentation was assault (47.2%). The majority of patients were seen within 24 hours of the injury.

Table 3. Physical clinical findings recorded during examination, n = 72

Clinical finding	Frequency (n)	Percentage (%)
Type of injury noted clinically		
Abrasion	19	26.4
Bruise/contusion	16	22.2
Laceration	14	19.4
Incised wound	8	11.1
Swelling/tenderness	9	12.5
Fracture suspected/confirmed	6	8.4
Site of injury		
Head and neck	18	25.0

Upper limb	16	22.2
Lower limb	14	19.4
Chest/abdomen	8	11.1
Back	5	6.9
Multiple sites	11	15.4
Number of injuries		
Single injury	30	41.7
Multiple injuries	42	58.3
Clinical severity		
Simple injury	57	79.2
Grievous injury	15	20.8

Abrasion was the most common type of injury observed, followed by bruises and lacerations. In 58.3% of cases multiple injuries were present.

Table 4. Documentation pattern in MLC reports, n = 72

MLC documentation variable	Frequency (n)	Percentage (%)
Injury type clearly documented	61	84.7
Injury site clearly mentioned	64	88.9
Size of injury recorded	45	62.5
Freshness/age of injury mentioned	39	54.2
Probable weapon/object mentioned	42	58.3
Radiological advice documented where needed	18	25.0
Final medico-legal opinion recorded	66	91.7
Missing or incomplete details present	27	37.5

Important information like injury size, injury age and likely weapon was not reported on most MLCs, but was recorded.

Table 5. Concordance between physical clinical findings and MLC reports, n = 72

Parameter compared	Complete match n (%)	Partial match n (%)	Mismatch n (%)	Kappa value	p-value
Type of injury	54 (75.0)	12 (16.7)	6 (8.3)	0.68	<0.001
Site of injury	58 (80.6)	9 (12.5)	5 (6.9)	0.74	<0.001
Number of injuries	49 (68.1)	15 (20.8)	8 (11.1)	0.61	<0.001
Severity of injury	60 (83.3)	6 (8.4)	6 (8.3)	0.72	<0.001
Final clinical impression vs MLC opinion	57 (79.2)	8 (11.1)	7 (9.7)	0.70	<0.001

In 83.3% of cases (the highest agreement), clinical findings matched MLC reports on severity of injury. The fewest matches were observed in the number of injuries, with a 68.1% level of agreement. Overall, the physical clinical findings were in full agreement with the MLC in 69.4% of the cases. There was partial concordance in 20.8% and clear discordance in 9.8% of cases.

Table 6. Overall concordance between physical clinical findings and MLC reports, n = 72

Overall concordance	Frequency (n)	Percentage (%)
Complete concordance	50	69.4
Partial concordance	15	20.8
Discordance	7	9.8

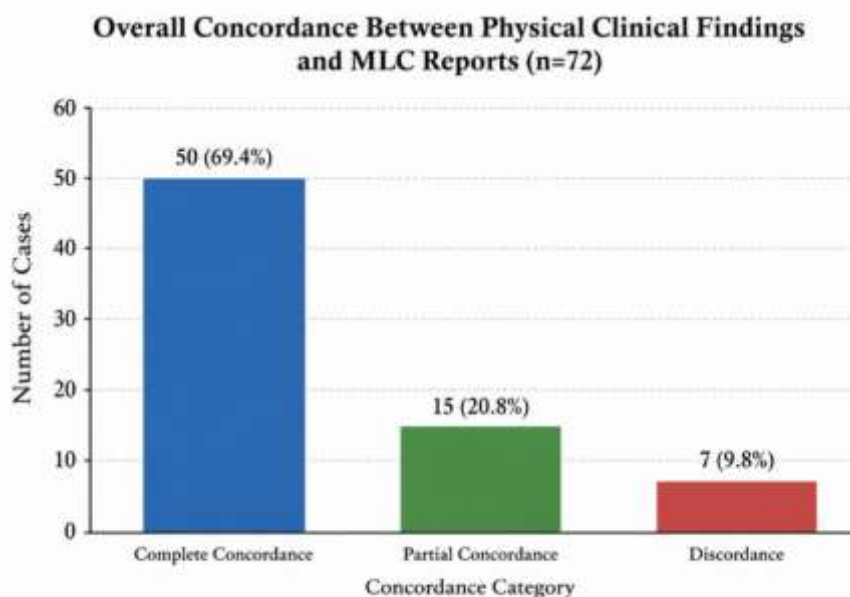


Figure 1: Overall concordance between physical clinical findings and MLC reports.

Figure 1: Overall concordance between physical clinical findings

and MLC reports among the studied cases (n = 72).

DISCUSSION

The present study assessed the correlation between physical clinical findings and medico-legal case reports among 72 injury cases examined at Saidu Medical College and its affiliated hospital. The results revealed a fair level of agreement between the findings obtained from the clinical examination and the majority of MLC reports, and some areas of poorly documented findings were found. In 69.4% of the cases there was complete concordance, in 20.8% partial, and in 9.8% it was discordant. This suggests that while the overall clinical impression of the injured parties is reflected in the medico-legal reports, there was a considerable degree of discrepancy between the findings on the scene and some reports of the injury (12-14).

The most consistent findings in this study were for the severity of the injury, site of the injury and final medico-legal opinion. This indicates that the impression of major clinical findings was typically reported correctly in the MLC report. There was, however, greater disagreement in the number of injuries, size of the injury, freshness of the injury, and likely weapon/object. These details are of great importance in the medico-legal field since they may be used in the courts or by investigating agencies to attempt to determine the nature, timing, and perhaps the mechanism of injury. The literature also highlights that it is important to document the type, size, site, direction, age and estimated recovery period of injury in medico-legal injury documentation as insufficient information would diminish the legal weight of the documentation (15, 16).

The results of the present study also align with the findings of studies that showed poor documentation of medico-legal reports, need for structured documentation, need for physicians to be trained in medication, and the need to audit medico-legal records regularly. That study reported that low quality reports can have an impact on medical accountability and judicial reliability. Likewise, the present study revealed that while most final opinions were recorded, there was less consistency in recording supporting details like the measurement of the injury, the estimated age of the injury and the probable weapon. This indicates that the primary conclusion of the MLC can be present but the supporting evidence to that conclusion may not be complete (17, 18).

There are several reasons why clinical findings do not match with the MLC reports. Clinicians may also be able to do a patient's stabilization and prepare documentation simultaneously in a busy emergency/casualty environment. This can lead to inaccurate or incomplete descriptions, ambiguous language, or measurements. One other possible explanation may be the absence of a uniform MLC format which is checklist driven. Without using free text to document injuries, important details can be left out. Medico-legal documentation guidelines emphasize that original records and certificates should be adequately kept as they may be needed in court cases. Thus, any gaps in the document can be substantial when it comes to legal review of the report (19).

It also revealed that there was no consistent recording of radiological advice and documentation. This is significant because, fractures, dislocations and deep injuries may not be fully evaluated from an outside look. If radiological evidence is needed, then, appropriate documentation of X-ray advice, findings and submission of X-ray reports enhances the medico-legal opinion. The forensics literature also suggests that the absence of medical and forensics information may affect the quality of the subsequent evaluation, particularly in retrospectives (20).

The other significant finding was one fifth of patients had partial concordance. This indicated that although the clinical and MLC results were not entirely different, there was a lack of information or it was inadequately described. This incomplete documentation can lead to further confusion when interpreting the law. If, for instance, the type of injury is included, but its dimensions or anatomical location are not, the report may not fully support the clinical opinion. The recent recommendations on injury documentation also emphasize the importance of clear and systematic documentation of injuries for enhancing the reliability of the medico-legal context (21).

The results of this study have practical implications for hospitals dealing with medico-legal cases. Conduct routine training of casualty medical officers, utilisation of structured proformas, compulsory recording of the size of injuries and review of MLC reports prior to submission could help increase accuracy. A digital medico-legal reporting system could also be helpful in minimizing omissions and facilitate retrieval. In recent publications, similar suggestions were made for minimizing human error and improving the quality of medico-legal documentation, with the adoption of digital documentation and barcode identification and tracking systems proposed as well as integrated hospital-police data systems (22).

There are some limitations of this study. This was done in one institution and the sample size was 72 cases, so the results may not be generalizable to all medico-legal institutions. This is a cross sectional study and the accuracy of documentation was evaluated at only one time. There was no separate evaluation of inter-observer variation between clinicians. The study, however, offers some local evidence for the quality of injury certification that is useful and identifies some areas where there is scope for improving medico-legal documentation.

CONCLUSION

This study concluded that physical clinical findings and MLC reports showed a generally meaningful level of agreement; however, complete concordance was not present in all cases. The main gaps were related to incomplete recording of injury size, injury age, number of injuries, probable weapon, and supporting radiological details. These missing elements can reduce the clinical and legal strength of medico-legal reports. A structured MLC proforma, regular training of medical officers, careful injury description, and routine audit of medico-legal documentation are recommended to improve the accuracy, reliability, and legal value of injury certification.

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