

PATTERN AND PROFILE OF MEDICO-LEGAL CASES IN FEMALE VICTIMS: A ONE-YEAR EXPERIENCE FROM HYDERABAD

Dr Ishrat Bibi¹, Ali Arsalan Baladi^{*2}, Yasir Ali³, Danyal Omer⁴, Musawar Ali⁵, Afaq Hussain⁶

^{1,3,4,5,6}Department of Forensic Medicine and Toxicology Liaquat University of Medical and Health Sciences Jamshoro

^{*2}Department of Forensic Medicine and Toxicology Muhammad Medical College Ibn e Sina University, Mirpurkhas Sindh

^{*1}aliarsalan9988@gmail.com

DOI: <https://doi.org/10.5281/zenodo.16917167>

Keywords

medico-legal cases, female victims, assault, sexual violence, burns, poisoning, Hyderabad, WMLO

Article History

Received on 21 May 2025

Accepted on 03 August 2025

Published on 21 August 2025

Copyright @Author

Corresponding Author: *

Ali Arsalan Baladi

Abstract

Background: Medico-legal cases (MLC) play a significant role in the relationship between both the medical and legal fields, as the doctor is both a healer and a forensic scientist. The incidence of MLC is also disproportionately affecting women. Women have reported not just assault/ physical violence, but also sexual violence, burns, poisonings, and accidents. MLC can cause not just a physical injury, but also has psychological, social, and implications from a legal perspective. In Pakistan, there are significant systemic barriers such as stigma and issues related to legal frameworks, responsibilities, and under-reporting of women that make MLC more at risk. The introduction of Women Medico-Legal Officers (WMLO) added privacy, gender-sensitive practices, and credibility in examinations of sexual violence. However, there is limited data in mid-sized cities e.g. Hyderabad, as well as register-based studies (<2%) and we need comprehensive studies to adequately describe the gendered demographics of these mid-sized cities.

Objective: By gender, classify and analyze different types of medico-legal cases of female victims examined by a Women Medico-Legal Officer (WMLO) in Hyderabad, Sindh, in 2024. Focus will be placed on demographics, category of cases, pattern of injuries, reporting trends, and outcomes.

Methods: A cross-sectional descriptive study was conducted at the office of the Police Surgeon, Hyderabad. The records of 100 consecutive female MLCs (medico-legal cases) evaluated by one WMLO (Women's Medical Legal Officer) over the period of January to December 2024 were retrospectively evaluated. The findings of the study (with regard to age, marital status, type of case, nature of injury, time of reporting, and medico-legal outcome) were analyzed descriptively using SPSS. Frequencies and percentages were obtained for all tests.

Results: The most common type of abuse was assault (39% of total cases) followed by sexual violence (22%), burns (15%), poisoning (13%), and accidents (11%). Most victims (35%) were aged 20 to 29 years old and 61% were married. The majority (52%) had grievous injuries, 34% suffered simple injuries and 14% died of injuries: burns or poisoning. It was more common for cases to be reported at night (59%). The overall survival at 80% and 6% were critically ill.

Conclusion: Female MLCs in Hyderabad point towards worrying trends with

assault and sexual violence predominating among young married women. The sheer volume of grievous injuries, numbers of deaths associated with such injuries, and warranted levels of violence in the MLCs establish the need for preventive initiatives, introduction of gender-sensitive medico-legal services, and augmented legal protection. This baseline study offers evidence to inform forensic practice, health-related policy and programming, and social interventions in Sindh and similar contexts.

INTRODUCTION

Medico-legal cases (MLCs) are among the most logically important jigsaw puzzles of medicine, law, and society [1]. They go beyond the scope of mere patient care and medical personnel are obligated to carry twofold duties, i.e. immediate clinical treatment of injuries and proper forensic reporting to the courts [2]. It is this duality of MLCs that makes them unique, because the testimony of the medical officer is frequently critical to the results of legal proceedings and his observations and interpretations [3]. Medico-law practice has become a key issue in the operation of justice systems in many parts of the globe most especially when conducting cases of violence, sexual assault and accidents as well as suspicious death cases. In this spectrum, a woman is highly disproportionate in her representation as victims, whereby, the victims suffer various abuses, both around domestic areas as well as out in the streets [4]. The fact that women are prone to physical violence, sexual exploitation, burns, poisoning, and accidents symbolize gender inequalities, sociocultural barriers and failures in protective systems throughout the depth.

The consequences of MLCs to women are varied. Medically, such cases can cause trauma, disability and even death. At the psychological level, there is usually post-traumatic stress, depression and social stigma in the victims [5]. From a legal perspective, the process of medico-legal examination may have delays or gaps that affect justice and probably result in under-prosecution of offenders. Therefore, MLCs with women are not merely medical problems but also social and juridical emergencies, which must be addressed immediately and promptly [1].

The rate of gender based violence burden in South Asia and especially Pakistan is high. According to the World Health Organization (WHO) and the Pakistan Demographic and Health Survey reports, there are worrying levels of domestic violence,

intimate partner violence, and sexual violence through which women are affected. The reasons identified to contribute to this increase are patriarchal nature of social structures, poor literacy, economic reliance, and minimal application of protective legislation. Besides, reporting is not encouraged by the cultural norms and thus the actual magnitude of the problem is likely to be underestimated [6].

In Pakistan the medico-legal system is run under the supervision of Police Surgeons and the Woman Medico-Legal Officers (WMLOs) are specially assigned the task of investigating female victims. WMLOs are very important since they ensure privacy, demonstrating a sensitivity level in dealing with female victims and offering real forensic documentation [7]. Nevertheless, system level issues remain a problem such as lack of adequate training, deficiency of resources, weak intersectoral collaboration, and failure to follow up on legal matters. Additionally, much of the medico-legal studies conducted in Pakistan have been restricted in the key cities such as Karachi and Lahore and gaps have been left in evidence of the secondary urban centers such as Hyderabad [8].

Hyderabad is the second biggest town of Sindh, and its socio-demographic mechanics is exclusive, as there is a mixture between urban and semi-urban populace. It presents a wide variety of medico-legal manifestations, but there is hardly published material on this region. The patterns and profile of female medico-legal cases in Hyderabad is thus essential in terms of local health planning, forensic enhancement as well as policy development [9].

In this way, the research is aimed at filling this knowledge gap through a systematic review of all female medico-legal cases that could be considered in a one-year period, which relates to the need to examine all cases heard by a single WMLO over one

calendar year (January 2024 to December 2024). Interestingly, narrowing down the attention to the female victims, it gives us a vivid idea of the incidence of violence, the type of injuries, the demographic vulnerability, and the results that lie in change in women. This piece of work stands in contrast to studies that involve people of different sexes; therefore, it has direct implications on the health of women and forensic medicine.

The proposed study will categorize the cases into different groups (assault, sexual violence, burns, poisoning, and accidents); determine the demographic factors (age and marital status); capture the nature of injuries (simple, grievous, or fatal), time of reporting; and report on the medico-legal outcomes (dismissal or conviction). This evidence is presented in order to reinforce the medico-legal records, inform the preventive measures, as well as gender sensitive policies in Sindh.

Pakistan National Emergency Department Surveillance Study (Pak-NEDS) revealed that nearly half (47.8%) of burn patients were in the age range of 10-29 years and flame burns accounted for 81% of deaths [10]. In the six-year retrospective review from the Burns Centre in Karachi, women made up for just over half of all burn deaths, with flame once again being the deadliest mechanism of injury report [11]. Research conducted in India and Bangladesh shows similar knowledge and empirical data to that found in Pakistan with respect to burns and poisoning. Among the many medico-legal issues presented, burns and poisoning were considered major issues of importance, associated in many cases as a result of domestic violence, dowry issues, or self-harm. The World Health Organization (WHO) (2021) have suggested globally one in three women experience physical or sexual violence and South Asia, Africa and the Middle East, face increased prevalence due to gender inequality, weak mechanisms of enforcement and denial of healthcare. The key findings demonstrate these issues as common concerns, while recognizing the different local patterns of medico-legal issues across regions [12].

Pakistan's addition of Women Medico-Legal Officers (WMLOs) has been a highly effective change in the direction of gender-sensitive forensic documentation and improved survivor-care and support. There is

still room to improve to fill in crucial areas such as training, institutional support and, coverage in secondary urban centers, for example, Hyderabad where regional research is limited. The research seems to be focused mainly on major metropolitan centers, especially Karachi and Lahore, even though these mid-tier cities have different cultural and socio-economic factors. Therefore, it is critical regional research to understand the trends in medicolegal across town or city and generalise them to a national and global context.

Methodology

The present study was designed to be a cross-sectional descriptive study and carried out at the Office of the Police Surgeon, Hyderabad, over the period from January 1, 2024 to December 31, 2024. To maintain uniformity in recording and examination, all female victims were examined by one Women Medico-Legal Officer (WMLO) who was on duty during the description period.

100 consecutive medico-legal cases with female victims were retrospectively studied, with the main data being specific medico-legal certificates (MLC) and medico-legal registers held at associated hospitals. Each document was reviewed for completeness and accuracy before it could be included in study.

Analysis:

Information put into Excel/ SPSS. Results reported in the form of frequencies, percentages, and were tabulated and presented in graphs and diagrams.

We looked at both demographic variables, and variables of a case specific variable. Whereas demographic variables included victims' characteristics, such as age, marital status, work, and home location. Case specific variables included the type of medicolegal case (aggravated assault, sexual violence, burns, poisoning, or accident), type of injury (simple wounds, grievous bodily harm, or death to the accused), the time period of reporting the case (day or night) a medicolegal opinion supplied, and case outcomes determined by whether the alleged victim had survived, was critically ill or had died, as a result of their injuries.

The data were coded and analyzed using SPSS (Statistical Programme for Social Sciences) software.

Results were presented in frequencies, percentages, and charts or graphs to demonstrate trends and patterns. Ethical considerations were observed throughout the data management and reporting process by complying with anonymity and confidentiality of all study participants.

Results

In Hyderabad in 2024, a single WMLO examined a total of 100 medico-legal cases with female victims. Assaults (39%) and sexual violence (22%) were the

two most common categories of cases reported and comprised more than half of the total cases. The majority of victims were young women, ages 20–29 years, and the majorities were married. Grievous injuries (52%) were more common than simple (34%) injuries, and 14% of the cases ended in death. In addition, more incidents occurred at night (59%) than during the daytime. The leading systems leading to deaths were burns and poisoning, indicating their contribution to female deaths in medico-legal cases.

Case Type	Frequency	Percentage
Assault	39	39%
Sexual violence	22	22%
Burns	15	15%
Poisoning	13	13%
Accidents	11	11%
Total	100	100%

Table 1: Distribution by Case Type (Interpersonal violence like, assault + sexual violence accounts for 61% of all female medico-legal cases)

Age Group	Frequency	Percentage
10–19 yrs	20	20%
20–29 yrs	35	35%
30–39 yrs	25	25%
≥40 yrs	20	20%

Table 2: Demographic Profile by Age Groups 20–29 years is the most affected age band (35%), followed by 30–39 years (25%).

Status	Frequency	Percentage
Married	61	61%
Single	39	39%

Table 3: Married women form the majority of victims, consistent with a high burden of domestic/interpersonal violence.

Nature of Injuries

Injury Type	Frequency	Percentage
Simple	34	34%
Grievous	52	52%
Fatal	14	14%

Table 4: Nature of Injuries Grievous injuries (52%) predominates, underscoring the severity of harm.

Time	Frequency	Percentage
Day	41	41%

Night	59	59%
-------	----	-----

Table 5: Time of Reporting Majority of cases are reported at night (59%), consistent with escalation of domestic conflicts after evening hours.

Outcome	Frequency	Percentage
Alive	80	80%
Death	14	14%
Critical	6	6%

Table 6: Final Percentage Fatalities (14%) are chiefly associated with burns and poisoning; 6% remained critically ill.

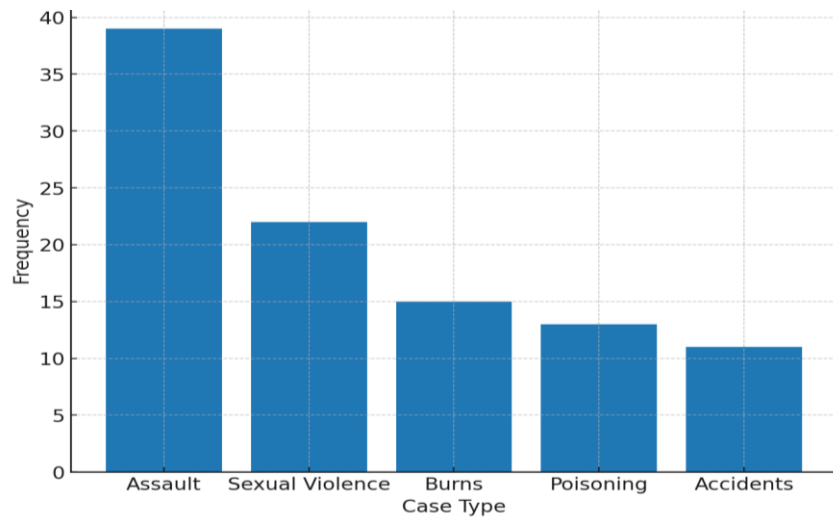


Figure 1: Distribution by Case Type

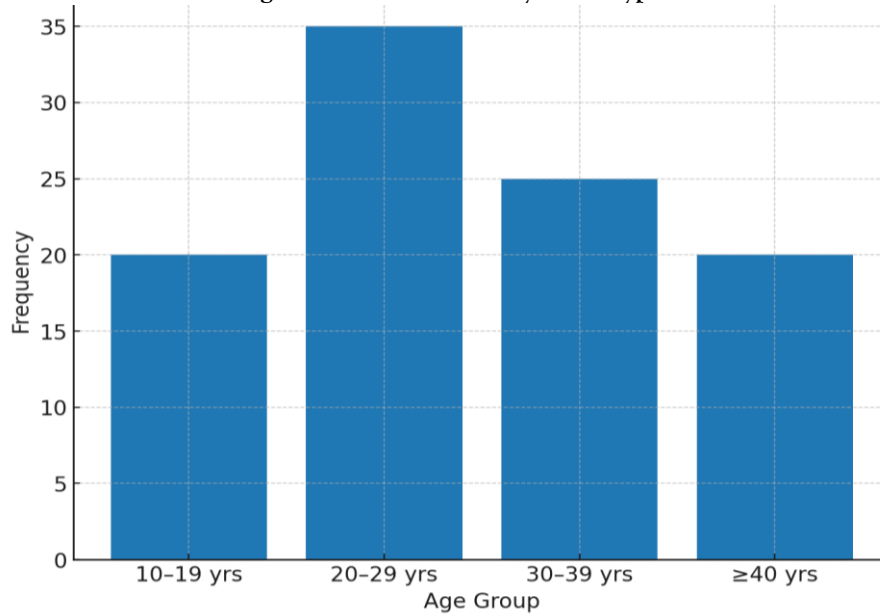


Table 2: Age Distribution of Victims

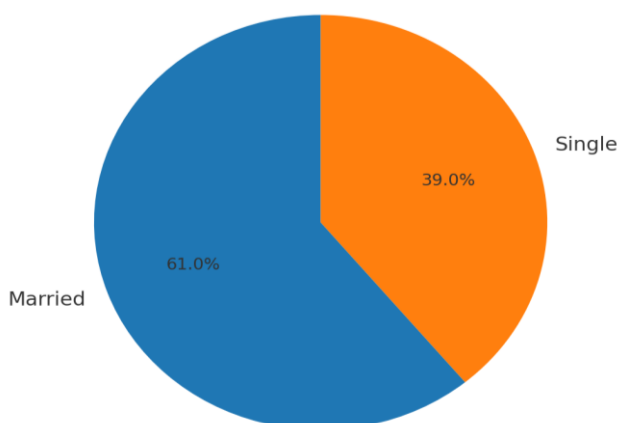


Table 3: Marital Status of Victims

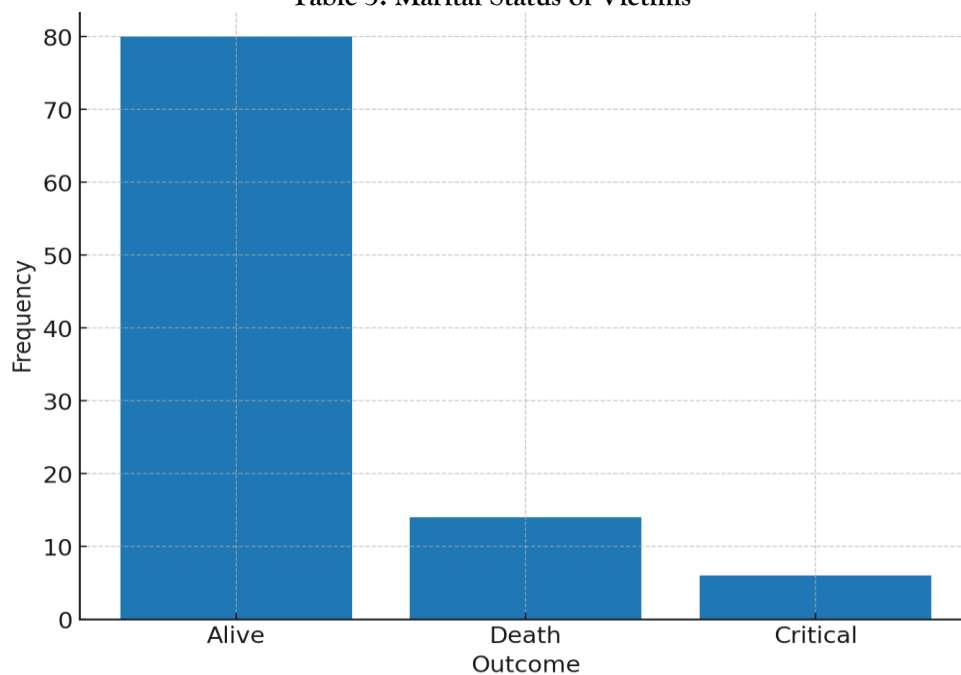


Figure 4: Outcomes of Cases

Discussion

This research yields helpful information about the trend and features of medico-legal cases involving women in Hyderabad, a city that has received little systematic scrutiny compared to larger metropolitan areas in Pakistan. The data revealed that assault and sexual violence were the most common categories of medico-legal cases with women and primarily impacted young married women. These findings are consistent with previous reports from Karachi and Lahore showing that interpersonal violence and

sexual assault are the most common contributor of the burden of female medico-legal cases. The predominance of married women suggest that intimate partner and domestic violence continues to be significant drivers of female victimization in South Asian contexts where patriarchal norms and limited autonomy increase vulnerability to victimization.

The patterns of serious injury, encompassing fractures, disfigurement, and permanent disability, highlight the gravity and ill intent of violence against

women. Death by burns and poisoning, of which we have evidence for numbering in the thousands, is a serious and concerning issue. In the case of conflict and distress, these injuries may represent both the range of domestic violence and potential self-harm. In South Asia, burns and poisoning are also widely acknowledged gender-based violence and suicide means often accompanied by marriage or dowry disputes and lack of psychosocial support.

The position of Women Medico-Legal Officers (WMLO) is particularly important in assuring gender-sensitive examinations, confirming dignity of victims, and providing credibility to forensic documentation. Their documentation is not only studied from a scholarly context, but varies in essential respect to support women's rights and enhance women Advocates of Justice in Pakistan.

Conclusion

This paper was the first systematic reporting of 100 female medico-legal cases of Hyderabad in 2024. The results indicate that the assault and sexual violence is the most occurring medico-legal issue with disproportionate victims being young married women. Such compliance of grievously injured persons and prevalence of fatally ended illnesses depict the seriousness of violence against women and serve as an alarming reminder of the necessity of the systemic shifts. Bargaining broaching on patterns There are other similarities which can be drawn out on this analysis: burns and poisoning come out as devastating factors in female deaths whilst the fact that most of the violence occurs at night points to the domestic and relationship nature of much of the violence. The results of the study have concurred with those of the national and regional studies but at the same time reflect the socio-cultural specificity of Hyderabad in which a patriarchal system of norms and resource constraints in the medico-social environment determine the characterization of the medico-legal situations. These issues need a multi-sectoral response. It is vital to strengthen medico-legal services, increase the role and resources of WMLOs and provide gender sensitive forensic documentation. Simultaneously, community awareness programs and legal reforms to community outreach appear on the same agenda with the issue of violence prophylaxis and women saviors. This

study will contribute to the forensic practice, health policy and women rights activism in Sindh and other areas of Pakistan through offering fluent baseline data.

References

1. Gurupur, N., et al., *Challenges faced in handling the medico-legal cases in a selected teaching hospital*. Int. J. Commun. Med. Public Health, 2019. **6**: p. 3771-3775.
2. Chaudhary, B., P.K. Shukla, and B.K. Bastia, *Role of clinical forensic medicine unit in quality and standardization of medico-legal reports*. Journal of forensic and legal medicine, 2020. **74**: p. 102007.
3. Khan, S., B. Rokhan, and S. Imtiaz, *Challenges to radiologists regarding reporting of medico-legal cases (MLC)*. Int J Radiol Radiat Ther, 2022. **6**(2): p. 42-46.
4. Cross, C., *Reentering survivors: Invisible at the intersection of the criminal legal system and the domestic violence movement*. Berkeley J. Gender L. & Just., 2016. **31**: p. 60.
5. Regel, S. and S. Joseph, *Post-traumatic stress*. 2017: Oxford University Press.
6. Barker, L.C., D.E. Stewart, and S.N. Vigod, *Intimate partner sexual violence: An often overlooked problem*. Journal of Women's Health, 2019. **28**(3): p. 363-374.
7. Gonu, V.K., *Crimes against Women: Investigation Techniques*. 2021.
8. Kausar, S. and A.R. Leghari, *Analysis of Medico Legal aspects of Forensic Autopsy: Scenario and Challenges in Sindh, Pakistan*. Pakistan Journal of Criminology, 2022. **14**(4).
9. Deshpande, S., *A Medico-Legal Study of Forensic Psychiatry in India*. Indian JL & Legal Rsch., 2021. **2**: p. 1.
10. Siddiqui, E., et al., *Burn injury characteristics: findings from Pakistan national emergency department surveillance study*. BMC emergency medicine, 2015. **15**(Suppl 2): p. S5.

11. Ali, S., et al., *Clinical and demographic features of burn injuries in Karachi: a six-year experience at the burns centre, civil hospital, Karachi*. *Annals of burns and fire disasters*, 2016. 29(1): p. 4.
12. Organization, W.H., *Violence against women prevalence estimates, 2018: global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women*. 2021: World Health Organization.

