

# ANALYSIS OF MEDICOLEGAL CASES OF SEXUAL ASSAULT PRESENTED IN MEDICOLEGAL CLINIC IN MAYO HOSPITAL LAHORE FROM JANUARY 2016 TO DECEMBER 2018 – A RETROSPECTIVE STUDY

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## ABSTRACT

**Objective:** To observe the predominant age and gender involved in victims of sexual assault and to know the dimensions of this important public health concern by determining the frequent factors in women and children subjected to sexual assault.

**Methods:** A cross tabulation analysis is conducted at King Edward Medical University after the approval from the ethical review committee. It is a retrospective study conducted from the Medicolegal cases of sexual assault presented at Medicolegal clinic in Emergency & Accident Department of Mayo Hospital, Lahore during the period of January 2016 to December 2018. The total the sample size is 99 using non probability purposive sampling technique.

**Results:** In this study, the mean age (years) of the victim was  $17.25 \pm 8.43$  with most of the victims lying in the age group of 11-15 years (38.38%) followed by the victims lying in the age group of 16-20 years (21.21%) out of which about 63% victims were female and 37% victims were male. About half of the cases (49.50%) were presented after 72 hours of the assault and only 31.31% cases were reported within the first 24 hours of the assault. In most of the cases (81.81%), the assailant was un-related or unknown and single (74.75%). The victim's clothes were mostly changed (77.78%) and there were mostly no signs of external injury on the body of the victim (70.71%). In 43.43% cases vaginal, 15.15% cases anal, and 3.03% cases both anal and vaginal injuries were present. But in 38.38% cases, no anal or vaginal injury was present.

**Conclusion:** Sexual assault is prevalent in younger females. Only one third of the cases are presented in the first 24 hours of the assault. The assailant is usually single and unknown to the victim. There are usually no signs of external injury on the body and the victim usually reports after a change of clothes. In most of the cases there is an injury in the genital region.

**Keywords:** Sexual assault, Sexual violence, Rape, Sodomy, Medicolegal

## INTRODUCTION

Sexual assault is defined as any undesired physical contact of a sexual nature committed against another person.<sup>[1]</sup> It mainly includes rape and sodomy. Rape is defined as Unlawful sexual intercourse with a woman by force, fear or fraud<sup>[2]</sup> against her will and without her consent.<sup>[3]</sup> Sodomy is defined as penetration of anus (which may or may not involve emission of semen).<sup>[2]</sup>

Like many other countries of the world, adult sexual abuse is primarily framed within the legal system in Pakistan. The forensic physician is primarily involved in the documentation of the findings and the collection of evidence. This division of the medical response to rape into a legal and medical component is an obstacle to an optimal service for victims.<sup>[4]</sup> The medical response to sexual assault should include treatment of the injuries and follow up counseling in

addition to the documentation and collection of evidence. In many countries, special units have been set up which cater to all aspects of the victim of sexual abuse from reporting and examination to treatment and follow up.<sup>[5]</sup>

In Pakistan, there has been an increase in the cases of sexual assault over the recent years. Only in Lahore, in 2017 (as compared to 2016) there has been a reported increase of 68.33% in cases of Rapes where there was a single assailant whereas there has been a reported increase of 500% in cases of Gang Rapes in which two or more assailants were involved.<sup>[6]</sup> A similar increase in rape cases has been seen in European countries like Sweden, Norway, Italy and Uruguay as well as Asian Countries like Bangladesh and Sri Lanka.<sup>[7]</sup> This is in spite of the fact that sexual assault is the least reported

of the violent crimes with only 16-39% being reported to the police.<sup>[5]</sup>

The majority of forensic evidence in a case of sexual assault is found on the clothing and linen.<sup>[5]</sup> The clothing should be examined for stains of blood and semen. A search for seminal stains should always be under satisfactory lighting and preferably under filtered UV light. Stains on absorbent fabrics, especially those of light color have a grey or yellow-grey color and an irregular shape.<sup>[8]</sup> The body of the victim may have physical findings indicative of force or violence in addition to local injury or trauma to the genital area.<sup>[5]</sup> The whole of the exterior of the body of the victim must be examined for injuries notably abrasions and bruises and it should be noted that whether or not they appear in situations consistent with an injury received during a struggle or a forcible attempt at intercourse. Failure to demonstrate signs of intercourse or injury, local or general, does not permit an opinion that rape did not take place especially if some time has passed since the assault.<sup>[8]</sup>

This study was conducted to know the dimensions of this important public health concern and to determine the frequent factors in women and children subjected to sexual assaults. This would help us in developing strategies to prevent such incidences by educating the women and children in the vulnerable group.

### Methodology and Data Collection

A cross tabulation quantitative analysis is conducted at King Edward Medical University after the approval from the ethical review committee. It is a retrospective descriptive cross-sectional study conducted from January 2016 to December 2018 at Record Room, Forensic Medicine & Toxicology Department, King Edward Medical University. The Medicolegal cases were examined, out of which the cases related to sexual assault were separated. The sampling technique was non-probability purposive. Our sample pool consists of 99 medicolegal cases. A structured Proforma was used for the record of the demographics and medico legal examination reports. For analysis, following variables were considered:

- Age of Victim
- Gender of Victim
- Hours Passed Since the Assault
- Assailant's Relation with the Victim (Related/Unrelated)
- Number of Assailants
- Victim's Clothes (Changed/Unchanged & Stained/Unstained)
- Physical signs of violence on body of the victim
- Anal/Vaginal Injury

The tabulated data was then statistically analyzed on statistical package for social sciences. The related charts and tables were drawn to visually represent the tabulated data using MS Office 2019.

### RESULTS

A total of 99 cases of sexual assault (out of total 10,923 reported Medico-legal cases) were studied at Department of Forensic Medicine and Toxicology, KEMU, Lahore which took place over a span a three years (2016-18). Out of these, 38 cases were reported in 2016 (out of total 3143 reported Medico-legal cases), 31 cases were reported in 2017 (out of total 3925 reported Medico-legal cases) and 30 cases were reported in 2018 (out of total 3855 reported Medico-legal cases).

*Table I & Figure I* depicts that the mean age of the victim was found out to be 17.25 years with a standard deviation of  $\pm 8.43$  years ( $17.25 \pm 8.43$ ). The minimum age was 3 years whereas the maximum age was a single reported case of a 82 years old woman. Most of the victims lied in 11-15 years age group which consisted of 38.38% (n = 38) of the victims and was followed by 16-20 years age group comprising of 21.21% of the victims (n = 21). Moreover, there is a prevalence of female victims with 62.63% (n = 62) of the victims being female and only 37.37% (n = 37) of the victims being male.

*Table II & Figure II* shows that in about half the cases (49.50% ; n = 49), the cases were reported after 72 hours of the incidence of assault and only 31.31% (n = 31) of the cases were reported within 24 hours of the sexual assault. A fraction of cases were also reported between 24-48 Hours (13.13% ; n = 13) and 48-72 hours (6.06% ; n = 6).

*Table III & Figure III* represents that in only 18.18% (n = 18) of the cases, the assailant was related or known to the victim whereas in most of the cases (81.82% ; n = 81), the assailant was unrelated or unknown to the victim. Most of the cases reported a single assailant (74.75% ; n = 74) but in 25.25% (n = 25) of the cases, there were multiple assailants involved (two in 10.10% cases, 3 in 8.08% cases and more than three in 7.07% cases).

*Table IV* manifests that in most of the cases, the victims reported after a change of clothes (77.78% ; n = 77) and in only 22.22% (n = 22) cases, the victim was wearing the same clothes as he/she was wearing at the time of assault. Out of those 22 cases, in 50% cases (n = 11) there were stains of blood and/or semen present on the clothes whereas in 50% cases (n = 11) no such stains were found.

*Table V & Figure IV* shows that the physical signs of violence on the external body surface were mostly

absent in these victims (70.71% ; n = 70) and in 38.38% (n = 38) cases, there was not even any injury in the genital region (anal/vaginal). On the other hand, 29.29% (n = 29) cases exhibited signs of violence on external body surface which can be as a result of resistance put up by the victim against the assailant. 61.62% (n = 61) victims also exhibited injury, abrasion, bleeding or

swelling in the anal and/or vaginal region (only vaginal; 43.43% cases, only anal; 15.15% cases, both anal & vaginal; 3.03% cases). These results are depicted in Table V and the injuries in genital areas of victims of sexual assault are portrayed in Figure IV.

**Table I:** Classification of victims of sexual assault on the basis of their age & gender.

VICTIM'S AGE	2016		2017		2018		2016-18	
	frequency	%age	frequency	%age	Frequency	%age	Frequency	%age
0-5 YEARS	2	5.2631%	1	3.2258%	0	0	3	3.0303%
6-10 YEARS	1	2.6315%	2	6.4516%	5	16.6667%	8	8.0808%
11-15 YEARS	19	50%	10	32.2581%	9	30%	38	38.3838%
16-20 YEARS	5	13.1579%	9	29.0322%	7	23.3333%	21	21.2121%
21-25 YEARS	9	23.6842%	3	9.6774%	4	13.3333%	16	16.1616%
26-30 YEARS	1	2.6315%	2	6.4516%	2	6.6667%	5	5.0505%
31-35 YEARS	1	2.6315%	2	6.4516%	2	6.6667%	5	5.0505%
36-40 YEARS	0	0	1	3.2258%	0	0	1	1.0101%
>40 YEARS	0	0	1	3.2258%	1	3.3333%	2	2.0202%
<b>Total</b>	<b>38</b>	<b>100%</b>	<b>31</b>	<b>100%</b>	<b>30</b>	<b>100%</b>	<b>99</b>	<b>100%</b>
GENDER	2016		2017		2018		2016-18	
	Frequency	%age	Frequency	%age	Frequency	%age	Frequency	%age
MALE	18	47.3684%	6	19.3548%	13	43.3333%	37	37.3737%
FEMALE	20	52.6316%	25	80.6452%	17	56.6667%	62	62.6263%
<b>Total</b>	<b>38</b>	<b>100%</b>	<b>31</b>	<b>100%</b>	<b>30</b>	<b>100%</b>	<b>99</b>	<b>100%</b>

**Table II :** Hours Passed since the incidence of sexual assault.

HOURS PASSED SINCE THE ASSAULT	2016		2017		2018		2016-18	
	Frequency	%age	Frequency	%age	Frequency	%age	frequency	%age
<24 HOURS	13	34.2105%	9	29.0323%	9	30%	31	31.3131%
24-48 HOURS	3	7.8947%	4	12.9032%	6	20%	13	13.1313%
48-72 HOURS	2	5.2632%	4	12.9032%	0	0	6	6.0606%

>72 HOURS	20	52.6316%	14	45.1613%	15	50%	49	49.4950%
<b>Total</b>	38	100%	31	100%	30	100%	99	100%

**Table III:** Classified on the basis of relationship between the victim & the assailant and number of assailants.

NUMBER OF ASSAILANTS		2016		2017		2018		2016-18	
		<i>frequency</i>	<i>%age</i>	<i>frequency</i>	<i>%age</i>	<i>frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>
SINGLE		28	73.6842%	23	74.1936%	23	76.6667%	74	74.7475%
MULTIPLE	2	3	7.8947%	4	12.9032%	3	10%	10	10.1010%
	3	3	7.8947%	2	6.4516%	3	10%	8	8.0808%
	>3	4	10.5263%	2	6.4516%	1	3.3333%	7	7.0707%
	Sub-Total	10	26.3158%	8	25.8065%	7	23.3333%	25	25.2525%
<b>Total</b>		38	100%	31	100%	30	100%	99	100%
ASSAILANT'S RELATION WITH VICTIM		2016		2017		2018		2016-18	
		<i>Frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>	<i>frequency</i>	<i>%age</i>
RELATED		7	18.4211%	6	19.3548%	5	16.6667%	18	18.1818%
NON-RELATED		31	81.5789%	25	80.6452%	25	83.3333%	81	81.8182%
<b>Total</b>		38	100%	31	100%	30	100%	99	100%

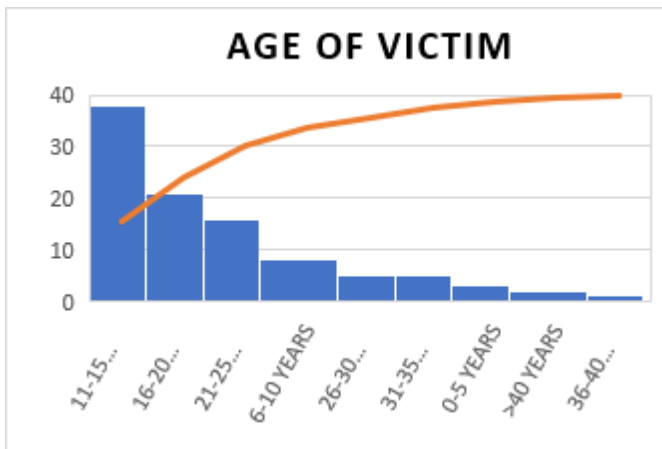
**Table IV:** Data Collected regarding the clothes of the victim.

VICTIM'S CLOTHES		2016		2017		2018		2016-18	
		<i>Frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>	<i>frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>
CHANGED		29	76.3158%	25	80.6452%	23	76.6667%	77	77.7778%
UN-CHANGED	STAINED	3	7.8947%	4	12.9032%	4	13.3333%	11	11.1111%
	NOT STAINED	6	15.7895%	2	6.4516%	3	10%	11	11.1111%
	Sub-Total	9	23.6842%	6	19.3548%	7	23.3333%	22	22.2222%
<b>Total</b>		38	100%	31	100%	30	100%	99	100%

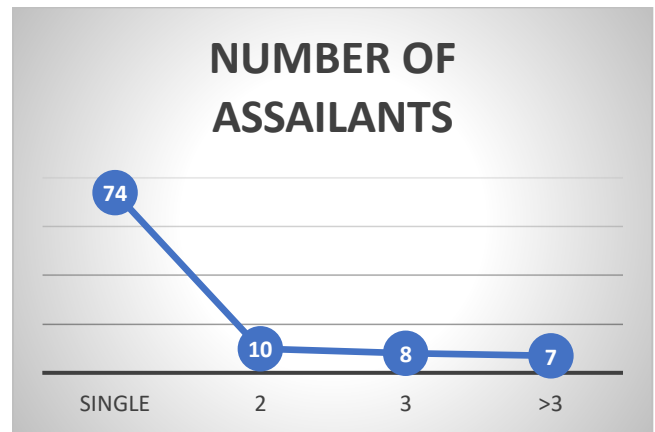
**Table V:** Injuries present on the body of the victim of sexual assault.

PHYSICAL SIGNS OF VIOLENCE ON BODY		2016		2017		2018		2016-18	
		<i>frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>
PRESENT		12	31.5790%	11	35.4839%	6	20%	29	29.292%

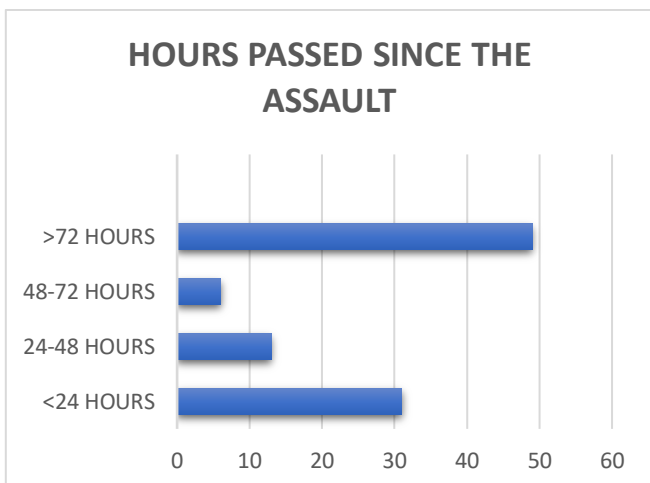
		%		%				%	
<b>ABSENT</b>	26	68.4210%	20	64.5161%	24	80%	70	70.7071%	9%
	<b>Total</b>	38	100%	31	100%	30	100%	99	100%
<b>ANAL/VAGINAL INJURY</b>	<b>2016</b>		<b>2017</b>		<b>2018</b>		<b>2016-18</b>		
	<i>frequency</i>	<i>%age</i>	<i>frequency</i>	<i>%age</i>	<i>Frequency</i>	<i>%age</i>	<i>frequency</i>	<i>%age</i>	
<b>ONLY ANAL</b>	7	18.4211%	1	3.2258%	7	23.3333%	15	15.1515%	
<b>ONLY VAGINAL</b>	19	50%	18	58.0645%	6	20%	43	43.4343%	
<b>BOTH ANAL &amp; VAGINAL</b>	0	0	2	6.4516%	1	3.3333%	3	3.0303%	
<b>NONE</b>	12	31.5789%	10	32.2581%	16	53.3333%	38	38.3838%	
	<b>Total</b>	38	100%	31	100%	30	100%	99	100%



**Figure I:** Representing Age Groups with the largest frequency (in descending order)



**Figure III:** Representing frequency of number of assailants involved in the assault



**Figure II:** Representing frequency of cases on the basis of hours passed since the assault



**Figure IV:** Representing Injuries in Genital Areas in victims of sexual assault

## DISCUSSION

Sexual assault is a problem that permeates all socioeconomic classes and impacts millions of people worldwide.<sup>[9]</sup> Mostly sexual assault has been underreported, underrated and unsupported worldwide. The evidence and possible legal ramifications for affected women and children has not been managed properly in legal and health care system of Pakistan.<sup>[10]</sup>

Our study included a total of 99 cases out of which 38 cases were from 2016, 31 from 2017 and 30 cases from 2018. This shows a gradual decrease in the number of cases whereas OSAC in 2017 reported an increase of 68.33% in rape cases (as compared to 2016).<sup>[6]</sup> This difference is probably because the sampling method was non-probability purposive or it may be due to a single center study.

The age group most prone to sexual assault is 11-15 years (38.38%) which is in accordance of the stats reported by Sahil in March 2019, according to which out of 3832 cases of child abuse in Pakistan in 2018, most of the victims (n = 1086) belonged to the age group of 11-15 years.<sup>[11]</sup> Studies conducted at Dhaka Medical College Bangladesh also showed similar results in which 33.5% (n = 226) cases lied in 12-15 years age group.<sup>[12]</sup> Whereas a study conducted in France showed even a more prevalent percentage of 68.3% (n = 516) victims which were under the age of 15.<sup>[13]</sup> The earlier age of predilection in our study could be due to the fact that this is the age at which children in our society are less aware and ignorance of the vagaries of society. As they mature, they tend to be more protective of strangers and acquaintances alike.<sup>[5]</sup>

Our study showed a prevalence of female victims (about 63%) which was also found out in a study conducted at Surgeon Medicolegal Punjab in Lahore & Jinnah Post Graduate Medical Centre Karachi also showed similar results.<sup>[5,10]</sup>

Only 31.31% cases of the were reported within the first 24 hours of the assault whereas more nearly half of the cases (49.50%) were reported even after the passage of 72 hours. Christian also reported the same and reasoned that in cases of sexual assault, emergent examinations may be needed to identify injury, collect forensic evidence, and provide infection and pregnancy prophylaxis.<sup>[14]</sup> Late reporting of the incident can be attributed to a number of reasons. Firstly, for a reasonable and variable period the victim may be mentally shattered and may be in a state of mental shock and traumatic stress. Secondly, The victim may like to keep it silent to avoid social stigma.<sup>[3]</sup> This might be the reason why a study conducted in USA reported that the virgin group of the study took longer to present

for examination than the non-virgin group (90 h compared to 44 h).<sup>[15]</sup>

In only 18.18% of the cases, the assailant was known or related to the victim which contradicts with the findings of Islam M.N. at Dhaka Medical University, Bangladesh in which 75.70% (n = 511) of the cases, the assailant was known or related to the victim.<sup>[12]</sup> The difference in result can be attributed to non-probability purposive sampling.

Prevailing 74.74% of the victims suffered from sexual assault by a single assailant whereas in 25.25% cases two or more assailants were involved. A study conducted in USA exhibited even lower percentage of 5.65% (n = 32) cases in which there were a multiple assailant involved.<sup>[16]</sup> On a other hand, a study in South Africa reported 31.9 % of men who had ever raped had done so with other perpetrators.<sup>[17]</sup>

The victim had changed clothes worn at the time of the incident before the medical examination in 76.67% of the cases, thus resulting in loss of important evidence. This is reflected in the fact that in only 11 out of 99 cases were blood and/or seminal stains found on the clothes. This was expected in the circumstances where about 70% of the victims reported for medical examination after 24 hours of the incident. This is supplemented by findings in USA that of all the forensic evidence collected, 64% was found on the clothing and linen. After 24 hours almost all positive evidence is recovered from the clothing or linen.<sup>[14]</sup>

About 70% of the cases exhibited no signs of physical violence or resistance on the body of the victim. It correlates with the major age group of victims being 11-15 years. Rape of young children of under 13 years may well be accomplished without the production of external injuries because these victims are unlikely to offer resistance to the assailant.<sup>[8]</sup> Moreover, these results are similar to a study conducted in Karachi where in 78.3% cases, no signs of physical violence were found.<sup>[10]</sup> However, the absence of injury does not exclude the possibility of sexual act, whether with or without consent.<sup>[15]</sup>

Similarly, in 38.38% cases, no injury in anal or vaginal area was seen whereas 43.43% cases reported vaginal, 15.15% anal and 3.03% both anal and vaginal injuries. The percentage of vaginal injury in another study conducted in Lahore showed only about 6.50% cases with such injuries.<sup>[5]</sup> The difference can be attributed to the sampling technique and difference in percentage of cases reported within the first 24 hours of the assault. Another study conducted at National Institute of Legal Medicine reported 31% cases with injury in the genital region. Moreover, failure to demonstrate signs of intercourse or injury, local or

general, does not permit an opinion that rape did not take place especially if some time has passed since the assault.<sup>[8]</sup> Several studies that have found that the physical evidence of trauma was neither predictive nor essential for conviction; therefore non-medical evidence must be collected by the medical examiner. The medico legal report should be an instrument to explain the presence or absence of physical findings.<sup>[19,20,21]</sup>

In Pakistan there is absence of legal definitions regarding Child Sexual Assault and accompanying laws. The true prevalence and incidence rates lacks in literature. This social issue is sensitive and difficult, but certainly not impossible.<sup>[22]</sup> The definition of sexual assault provided by the World Health organization (WHO) seems to be more comprehensive and unambiguous. The accepted definition is "the involvement of a child in sexual activity that he or she does not fully comprehend, unable to give informed consent, or else act that violates the laws of society."<sup>[23]</sup> In Pakistan, sexual assaults have been under reported because of social taboos, false prestige. The social status as matter of honor prevent parents/guardians to report occurrence of sexual assaults in women and children.<sup>[24]</sup> There has been no national survey or official statistics available in Pakistan.<sup>[25]</sup>

## RECOMMENDATIONS

Females reaching the vulnerable age should be educated regarding the alarm signals for such an incidence and how best to respond to such a situation. Victims and the closely associated people should be educated to report such an incident immediately and get the victim examined so that proper documentation can take place and evidence collected. Facilities for Semen grouping and DNA analysis should be developed to help in identifying the perpetrator. Finally Special centers should be developed where all needs of the victims can be catered to starting from police reporting to medico-legal examination and continuing to medical and psychiatric management. This would prevent further traumatizing the already traumatized victim and the family; something that they have to undergo in seeking help from the system in its current form.

## LIMITATIONS

This study is retrospective observational study that does not enquire into the mental health status of the victim and the assailant. It also does not cover the entire demographic of the said area but was performed while restricted to the medicolegal cases presented at the Department of Forensic Medicine and Toxicology, KEMU, Lahore.

## CONCLUSIONS

Sexual assault is prevalent in younger victims (11-15 years ; 38.38%) and females (62.63%). Only one third of the cases (31.31%) are presented in the first 24 hours of the assault. The assailant is usually single (76.67%) and unknown/nonrelated to the victim (83.33%). There are usually no signs of external injury on the body (70.71%) and the victim usually reports after a change of clothes (77.78%). In most of the cases there is an injury in the genital region (61.62%).

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