

Medico-Legal assessment of sexual assault victims in Lahore

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Abstract

Objective: The objective of the study was the medico-legal assessment of sexual assault victims in Lahore, and to know the characteristics of the assailants in these cases.

Methods: This study included all 123 female cases of alleged sexual assault that presented for medical examination at the office of the surgeon medico-legal Punjab at Lahore during 2002.

Results: Around 64% of the victims were between 10-19 years of age, 76% presented for medical examination after a delay of more than 72 hours. The assailant was known to the victim in 57% cases. Two or more assailants were involved in 30% cases. The victims had changed clothes and washed their bodies before the medical examination in 83% cases. Physical evidence of violence on the body was present in only 15% of the victims and evidence of recent injury to the genital tract was present in 18% individuals. However a positive semen analysis was reported in 98.35% of the samples.

Conclusions: Sexual assault was more common in younger females. Late presentation for examination was due to the embarrassment of being exposed. A positive semen analysis was the definite factor for confirmation of the assault (JPMA 57:539:2007).

Introduction

Adult sexual assault is an important public health concern throughout the world¹ and is now considered as a situation requiring emergency medical treatment.²

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.³ This division of the medical response to rape into a legal and medical component is an obstacle to an optimal service for victims.³ 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.

In USA, 683,000 women are raped per year.⁴ 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.^{5,6}

Those between 12-24 years of age are most prone to sexual violence in USA.⁶ However no age is immune, with cases being reported in the age ranges of 3 months to 86 years in Lisbon, Portugal.⁷

The probability of documentation of injuries and collection of positive evidence decreases as the time interval between the assault and medical examination increases.⁸ In spite of this between 20-38.5% of the victims

reported after 24 hours of the event and a significant number of victims reported more than 72 hours after the assault at the National Institute of Legal Medicine in Portugal.⁷

The perpetrator of the assault was usually someone known to the victim in studies in Nairobi, Denmark and Canada⁹⁻¹¹ and the number of assailants was more than one in a significant number of cases in Ohio, USA.¹²

The majority of forensic evidence in a case of sexual assault is found on the clothing and linen.⁸ 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. These injuries may be indicative of whether the act was consensual or was against consent, something that is likely to have wide legal connotations. The injuries can be highlighted by the application of toluidine blue to the affected areas.¹³

The presence of semen/sperms in the swabs taken from the body of the victim is an important corroborative evidence. This gains further importance if semen grouping or DNA typing of the seminal stains can be done. The proof can be further strengthened by isolation of female DNA (belonging to the victim) from penile swabs taken from the suspected assailant.¹⁴

This study was conducted to know the dimensions of this important public health concern. This would help us in developing strategies to prevent such incidences by educating females in the vulnerable group.

Materials and Methods

This cross sectional study was undertaken in the office of the surgeon medico-legal Punjab at Lahore. The study was conducted during a period of one year from 1st January 2002 to 31st December 2002. All victims of sexual assault presenting for examination at the above office were included in the study. Information about the age of the victim, the time between assault and the examination, the number of assailants and their relationship to the victim, physical findings on the body, the genital area and the clothes were noted and laboratory findings were recorded after receipt from the office of the chemical examiner, Government of Punjab. Informed verbal consent was taken from all subjects or their parents for including the data in the study.

Results

There were a total of 123 cases studied during the period of one year. The victims ranged from 6-40 years of age. The age most prone to an assault was 10-19 years with 64.2% of the cases followed by 20-29 years having 19.5% cases as shown in Table 1.

About three fourth of the victims reported for examination after a passage of more than 72 hours while only 5% were examined in the first 24 hours. This is depicted in Table 2.

The victim was assaulted by a person known to the victim in 57% (n=70) of the cases and in 30% (n= 37) of the cases; the victim was assaulted by two or more males.

Most (83%) of the victims had changed clothes and the same percentage; though not the same cases had taken a bath before reporting for a medical examination.

Table 1. Age of the victims of sexual assault.

Age group (in years)	Number of cases	%
0-9	7	5.7
10-19	79	64.2
20-29	24	19.5
30-39	12	9.8
40-49	01	0.8
Total	123	100

Table 2. Time between assault and medical examination.

Time duration	Number of cases	%
Less than 24 hours	6	4.9
24-48 hours	9	7.3
48-72 hours	15	12.2
More than 72 hours	93	75.6
Total	123	100

Table 3. Injuries to the genital area.

Hymen	Intact	6	4.8%
	Fresh tear	8	6.5%
	healed tear	109	88.6%
Labia	Bruise	6	4.8%
vagina	Bruise	8	6.5%

Of the 21 cases presenting with the clothes worn at the time of the assault, only 3 (14.2%) had positive findings for stains.

Only 14.6% (n=18) of the victims revealed physical findings of violence on the body in the form of abrasions and bruises while in 4 % (n=5) seminal stains could be recovered from the body. The physical injuries were in the form of abrasions and bruises and were present on the upper limbs (8 cases), chest (4 cases), face and neck (4 cases), lower limbs (3 cases) and on the breasts (2 cases). Injuries to the genital region were present in 6.5% of the cases while 4.8% were virgo intacta in spite of the assault as shown in Table 3.

The swabs sent for laboratory analysis were positive for semen in 98.3% of the cases. However semen grouping or DNA analysis were not done at the chemical examiners office.

Discussion

In our study, the age group most prone to a sexual assault was 10-19 years (64.2%) while the victims ranged in age from 6 years to 40 years of age. This is in line with studies in Bangladesh¹⁵, and is similar to that reported in some western countries.^{2,4,6,16} However studies in Canada¹¹ and Nairobi⁹ showed 19-30 year age bracket most prone to a sexual assault. The earlier age of predilection in our study could be due to the fact that this is the age at which females 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. It is because of this fact that no woman over 40 years of age was reported to have been assaulted sexually in our study. There is a need to educate females reaching puberty. Cultural taboos making mothers or other elderly females in the family hesitant to discuss the process of growing into adulthood should be discouraged. Females who have to go out independently or may otherwise encounter such a situation should be made aware of the alarm signals indicative of such an impending situation and how they should respond in order to protect themselves.

Only 4.8% of the victims reported for a medical examination in the first 24 hours and about 76% reported after a passage of 72 hours. This finding is similar to the

study in Bangladesh where only 23.7% reported and were examined within 72 hours.¹⁵ However studies in Portugal,⁷ Scandinavian countries² and Nairobi⁹ showed that the victims were examined much earlier with 61-80% reporting within the first 24 hours and the figure going over 90% if the victim was pre-puberty in the USA.⁸ The late reporting in this study is probably due to the decision making process in our society. Such an incident is taken as a blow on the family honour. The unfortunate victim first takes time to discuss it with her mother or other elder female. Further reluctance and thought goes into the incident before it is brought to the notice of the men of the house and here again delay occurs in decision making as reporting the incident amounts to making it public and an insult to the family.

Clear guidelines should be developed for victim and family response to such a situation as early reporting increases the likelihood of obtaining medical evidence for convicting the assailant. In addition mechanisms should be in place for protection of the privacy/identity of the complainant and the family and undue publicity should be avoided. In many cases it has been noticed that medical examinations are performed after a delay of not only days but weeks resulting in loss of important evidence. It has been reported that 90% cases with positive forensic evidence were seen within 24 hours of their assault.⁸

The assailant was known to the victim in 57% of the cases. This is in accordance with the trends worldwide in adult as well as pre-pubertal female victims in which 50-89% of the assailants were known to the victim.¹⁷⁻²¹ However studies in Nairobi and Canada^{9,11} have reported 26-33% of the assailants being known to the victim. This trend can be explained by the fact that a victim is more likely to get into a situation of circumstances where she becomes prone to an assault with a person known to the victim and thereby a person that has some relationship of trust with the victim. This goes against the general view that sexual assault is committed by a stranger.¹⁶

The victim was assaulted by more than one assailant in 30% of the cases. In all but one of these cases, the assailants were not known to the victim. As against this; of the 86 cases in which there was a single assailant, this was known to the victim in 53 (62%) cases. The proportion of assaults by more than one person is more in our study (30%) compared to the one in Toronto (16%) and USA 20%.^{12,16} However the likelihood of this being done by persons known to the victim is much lower in our study than in Canada (47%). This could be because of the higher number of assaults committed by acquaintances (up to 85%)⁷ in the west.

The victim had changed clothes worn at the time of the incident and had bathed before the medical examination

in 83% of the cases, thus resulting in loss of important evidence. This is reflected in the fact that in only 3 out of 123 cases were seminal stains found on the clothes. This was expected in the circumstances where about 88% of the victims reported for medical examination after 48 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.⁸

Physical injuries were present on the body in 18 (15%) cases. Signs of recent injury to the genital area were present in only 8 cases. This was to be expected as most of the cases presented for examination after more than 72 hours. The findings of injuries on the body and the genitalia are consistent with findings in Dhaka where 13.48% of the victims had evidence of non-genital violence and 10% had signs of recent injury to the genital region.¹⁵ In studies from more developed countries genital injury is reported in a larger proportion (22-53%) of the cases examined^{7,11,12,22,23} as is non genital injury.^{22,23} This could be explained by the early reporting of the cases in these countries compared to Pakistan and Bangladesh.

Swabs were taken for the presence of semen in 118 cases. In the other five cases these were not taken as more than three weeks had passed since the incident. Semen was detected in 116 cases (98.3%) while it was negative in two cases. This is an unexpected finding as the probability of detecting semen decreases as the interval between the assault and medical examination increases and it is generally accepted that detection of complete sperms becomes difficult after 26 hours and sperm heads after five days.²⁴ Chemical tests like acid phosphatase test and semen specific glycoprotein (P30) may be positive for 24 and 48 hours respectively.²⁵ False positive tests could result in conviction of innocent people. No semen grouping or DNA analysis was done as such facilities were not available at the time. The mere detection of sperms/semen is of little value especially in married females and even in unmarried victims it is important to establish a cause-effect relationship by doing DNA analysis of the sperms and matching them with that of the suspects. In addition penile swabs should be taken from the suspect and checked for female specific markers.

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.

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