

The Effect of Delay in Examination, Vaginal Sampling on Results of Semen Analysis in Rape Victims

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ABSTRACT

Objective: To know the effect of delay in examination, taking vaginal samples and their effect on the laboratory results in cases of rapes. And to compare the results of the vaginal samples collected in cases presenting within 72 hours of the act to that presenting after 72 hours.

Study Design: Observational / cross sectional study.

Place and Duration of Study: This study was conducted at the Department of Forensic Medicine and Toxicology of Khyber Medical College, Peshawar from January, 2010 to December 2011.

Materials and Methods: The medico legal Centre of Peshawar is in Khyber Medical College. The rape cases occurring in two year were recorded in Performa's and then data was analyzed.

Inclusive Criteria: The sample included all the female sexual assault cases brought by police to the forensic medicine department, KMC, Peshawar during the period.

Exclusive Criteria: Examination of assailants and male victims of sexual assault cases are not included in this study. Results of the laboratory were obtained from the analysis of specimen in the laboratory. Data analysis was done on SPSS 16.

Results: The specimens taken for semen analysis were analyzed in laboratory for 33 cases. The samples from vagina were taken in first 24 hours, in 24-48 hours, 48-72 hours, and after 72 hours. The percentage of positive case in first 24 hours was 1 (3.03%), in 24 to 48 hours were 2(6.06%) , in 48 to 72 hours were 4(12.12%) and 26 (78.8%) cases examined after 72 hours were totally negative.

Conclusion: The findings of the research summarize that the most vulnerable age group among the female sexual assault cases is between 14 -20 yrs. The proportion of those cases which are positive for semen analysis is only 6.1%. It was known from the analysis that the results were positive with the earlier the examination done and the earlier the samples taken. The examination done later and sample taken after 72 hours were showing totally negative results. Awareness should be evoked among the general population using print media about the importance of timely forensic examination

Key Words: MLE, MLO, STD's

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INTRODUCTION

Rape is defined in Women Protection Bill 2006 as:¹ A man is said to commit **rape** who has sexual intercourse with a woman against her will, without her consent, with her consent, when the consent has been obtained by putting her in fear of death or of hurt, with her consent, when the man knows that he is not married to her and that the consent is given because she believes that the man is another person to whom she is or believes herself to be married; or with or without her consent when she is under sixteen years of age.

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Explanation: Penetration is sufficient to constitute the sexual intercourse necessary to the offence of rape.

Forensic medicine has a critical role in striking a balance between public, law and police properly.² While Justice System needs collection and preservation of evidence, interpretation and presentation of findings and providing expert opinion in proceedings. A thorough forensic examination starts with a complete detailed history of the event.^{3,4}

Government of Punjab has devised guide lines for the medico legal examiner, which ensure examination of females only by authorized registered women medical officer granted by judicial orders as per Women Protection Act, working in Government institute.⁵

Informed consent of the victim herself is taken or of the guardian if the victim is less than 12 years of age or is unable to give consent due to some disability before the start of MLE.⁶

A detailed history is taken followed by complete body examination. Evidence is collected with objectivity. In addition to photographs and routine samples, Urine should be taken for pregnancy test and toxicology

screening.⁷ Blood for grouping, DNA analysis and toxicological screening. Vaginal swabs are taken even if victim is menstruating.

Checklist of forensic evidence collection from victims shall be made. Step by step documentation and record is made for evidence.

According to WHO, Most protocols recommend that forensic evidence like sperm, blood, hair, and saliva samples should not be collected 72 hours after the incident. If the victim has showered, urinated, or changed clothes, it will significantly affect the quality of the sample.⁸

MATERIALS AND METHODS

The research work was conducted in Department of Forensic Medicine and Toxicology of Khyber Medical College, Peshawar. It is an observational, cross sectional study for a period of 2 years

Inclusive Criteria: The sample included all the female sexual assault cases brought by police to the forensic medicine department, KMC, Peshawar during the period. **Exclusive Criteria:** Examination of assailants and male victims of sexual assault cases are not included in this study.

A Performa was devised to record the history, observations and results of laboratory. Data was analyzed on SPSS 16.

The time of examination was given special emphasis. The cases examined in first 24 hours were recorded separately, than 24 -48, 48-72 hours and after 72 hours. The data of results and timing of examination was analyzed.

RESULTS

From the data collected the information about address was interpreted and it was known that among the 33 females 60.6% were from urban area and 39.4% were from rural back ground. (Table 1). The analysis about age showed that in the data collected the minimum age of the victim was 5 yrs, maximum is 32 yrs, with the mean age of 16.73-⁺4.7yrs. (Table 2)

Table No.1: Address

	Frequency	Percent
Urban	20	60.6
Rural	13	39.4
Total	33	100.0

Table No.2: Age.

	N	Min	Max	Mean	Std. Deviation
Estimated Age	33	5	32	16.73	4.785

3.03% were examined in first 24hours, 6.06% were examined in 24-48hours,12.11% were examined in 48-72 hours and 78.8% were examined after 72 hours. . (Table 3) 6.1% cases shows presence of spermatozoa

on vaginal swabs. 93.9% shows negative results. (Figure 1).

Table No.3: Examination of cases after incidence

Examination after incidence	Frequency of cases	Percentage
1 – 24 hours	1	3.03 %
24 – 48 hours	2	6.06 %
48 – 72 hours	4	12.11 %
After 72 hours	26	78.80 %
Total	33	100.00 %

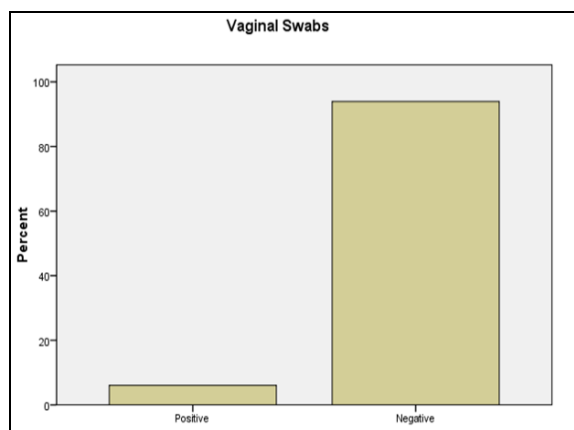


Figure No.1: Vaginal Swabs with percentage

DISCUSSION

Sexual violence is one of the most violent crimes in the world. The data is usually collected from various NGO's, police, hospitals and surveys. However the actual number of cases is much higher.

Our study in Peshawar showed that the incidence of sexual assault is more in urban areas. 60.6% are the inhabitants of urban area and 39.4% belongs to rural areas. These facts are against the study done in Bangladesh, where the sexual assault cases were detected more in rural area.⁹ Moreover the females are bound to their homes strictly in rural areas that's why the incidence of sexual assault is low in rural areas.

The mean age of the victim affected is 16.73. Most of the victims fall between the ages of 15 and 20 years showing that adolescent girls are more at risk of sexual assault than older women. These results are same like studies done in Pakistan, India, Malaysia, Denmark and South Africa.^{3,4,10-14}

As most of the victims fall between the age of 15 – 20 yrs, This is the same results as shown by the studies done in Lahore^{15,20}, Bangladesh⁹, turkey¹⁶and other countries.¹⁷⁻¹⁸ This shows that young girls are more at risk of sexual assaults everywhere than the elderly ladies.

Among victims 3.03% were examined in first 24hrs, 6.06% were examined in 24-48hrs, 12.11%were examined in 48-72 hrs and majority of them 78.8% were examined after 72 hrs. Vaginal swabs were taken in all the victims for detection of semen. Only

6.1% shows positive results indicating recent sexual activity. Negative results did not exclude the sexual activity as 78% cases presented after 72 hrs of the incident. This may be a cause of loss of evidence in such cases.

A standardized evidence collection and documentation procedure should be adopted.¹⁹ It is estimated that worldwide, one in five women will become a victim of rape or attempted rape in her lifetime.⁹ Due to lack of legal or medico legal, scientific awareness and knowledge among victims, the end result is either 'justice hurried is justice buried' or 'justice delayed is justice denied' to the victims.

CONCLUSION

Rape is a heinous crime that has serious physical & psychological consequences. Anti women attitude by society, police & health professional have compelled many victims not to report the crime.

Medico legal services have been established in country, but little evaluation of such services with respect to impact and use of medico legal evidence has been done.

Recommendations:

1. Attention should be paid to the protocols & professional practices that are part of medico legal evidence.
2. Proper sexual assault kits must be provided in all the medico legal centers.
3. Manuals should be developed for the MLO's to review specialized medico legal techniques and detail description of injuries.
4. Blood and urine samples in sexual assault cases must be taken for drug detection.
5. Sexual assault victims must receive emergency medical treatment and psychotherapy.

Author's Contribution:

Concept & Design of Study: Salma Shazia
 Drafting: Salma Shazia, Nighat Seema
 Data Analysis: Iftikhar Ahmad, Nighat Seema
 Revisiting Critically: Salma Shazia, Nighat Seema
 Final Approval of version: Salma Shazia

Conflict of Interest: The study has no conflict of interest to declare by any author.

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