

A Study of Sexual Assaults in Northern Range of Himachal Pradesh

Kumar-Pal S^{1*}, Sharma A², Kumar Sehgal A¹, Singh-Rana A¹

¹ Biology & Serology Division, Regional Forensic Science Laboratory (RFSL), Northern Range (NR), Dharamshala, Himachal Pradesh, India

² State of Forensic Science Laboratory, Shimla Hills, Junga, Himachal Pradesh, India

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ABSTRACT

Background: Rape is among the highest forms of underreported crime experienced by women in all sections of the society and obtaining an accurate measurement of sexual assault is a challenge. An increasing rate of sexual assaults constitutes a large number of cases registered under different sections of the Indian law, their medico-legal examination and forensic investigations.

Methods: The study was conducted on 35 sexual assaults cases received for examination at RFSL, Northern Range, Dharamshala, Himachal Pradesh, India. A self-innovated proforma including the details pertaining to socio-demographic profile, medical examination, and results of specimens of victims collected during forensic analysis was designed. Benzidine test, gel-diffusion test, acid phosphatase test and microscopic examinations were conducted in the lab.

Results: The common location of offence was house of the accused (31.42%) followed by house of the victim (20.0%). 48.57% of the alleged rape victims were students. Highly affected age group was 11-20 years. Fifteen girls (42.85%) were below eighteen years of age, which was the age of invalid consensual rape. Forcible rape and invalid consensual rape was reported in 68.56% cases. 77.14% victims were unmarried and 22.85% were married. 85.71% victims were Hindus followed by Muslims (11.42%) and Christian (2.85%). 80% victims knew the assailant. Rupture of hymen was found in 88.57% cases and hymen was intact in 11.42% cases. Delay of medico-legal examination of victim was noted. 31.42% victims had combined genital and extra genital injuries. Acid phosphatase test was found positive in 34.28% cases and positivity for spermatozoa in 22.85% cases. Blood was detected on clothes, undergarments and vaginal swabs in 42.85% cases. In 8.55% cases rape was committed by family members. Only one victim became pregnant following the act of sexual intercourse.

Conclusion: Cases were reported from Hindu, Muslim and Christian communities and adolescents were more at risk. Majority of the victims have acquaintance with the assailant and the residence of the accused was the most common location of sexual assault. Delay in medico-legal examination caused problems in detection of semen and spermatozoa. Most of the victims had bath and genital wash after the sexual act, before medical examination and destroyed the evidence.

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► Implication for health policy/practice/research/medical education: Sexual Assault

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1. Introduction:

Sexual assault on female victims is a major global health, legal and human rights concern. In recent years, there has been an alarming rise in ratio of sexual assaults in India (1). Cultural and religious doctrines have profound impact on individuals and must be considered when treating the sexual assault victim. There may be a general distrust of medical and law enforcement personnel who play vital roles in the aftermath of a sexual assault (2).

Rape and violence against women are a massive problem in India. Due to urbanization, globalization and modernization, Indian women are trying to come out from strict traditional values (3). An anti-rape protest in 2012 arises due to modernization of the country which is making efforts to bring cultural changes promoting proper treatment of women (4). Rape is a growing problem in today's society and it is becoming increasingly difficult to ignore the startling statistics about this crime. According to the data of the Home Ministry, India stands third, leaving behind countries like Sri Lanka, Jordan and Argentina, when it comes to rape cases (5). Rape in India has been described as one of India's most common crimes against women (6,7). The slightest penetration of the penis within the vulva, such as the minimal passage of glans between the labia with or without emission of semen or rupture of hymen constitutes a rape (8). An analysis of crime data during the 13-year period revealed that Madhya Pradesh reported the most number of rapes (9).

According to 2012 statistics, New Delhi has the highest number of rape-reports among Indian cities (10, 11). According to the National Crime Records Bureau, 24470 rapes were committed by relative or neighbor in 2012 (12). The latest estimates suggest that a new case of rape is reported every 22 minutes in India (13). According to a BBC report underage victims who do report the assaults are often subjected to mistreatment and humiliation from the police (14). A landmark government survey in 2007 revealed that a lot of children in India are physically abused and that such occurrences are disturbingly common (14,15). Though during the recent past, the border and industrial areas of the state have been witnessing an increase in crime. The number of rapes, kidnapping and crime against women cases are the highest in 2013 during the last 10 years (16).

The Protection of Children from Sexual Offences Act (POCSO) of 2012 aims to offer protections to children below the age of 18 from sexual violence. In a country where 40% of the population falls below 18 years and as per a survey conducted in 2007 revealed that 53% children has been a subject to some form of sexual abuse (17). In April 2013, the Indian Parliament introduced amendments to the Indian Penal Code (IPC) making various changes to the anti-rape laws in India (18). The definition is broadly defined in some aspect, with acts like penetration by penis, or any object or any part of body to any extent, into the vagina, mouth, urethra or anus of a woman or making her to do so with another person or applying of mouth to sexual organs without the consent or will of the woman constitutes the offence of rape (19).

The present study aimed to examine the socio-demographic profile, medico-legal examination and forensic investigations of the sexual assault victims.

Corresponding author: Kumar-Pal S, MD. Assistant Director (Biology & Serology Division), Regional Forensic Science Laboratory, Northern Range, Dharamshala-176215, Himachal Pradesh, India. Phone: +91-94188-00708
E-mail: skpal1969@gmail.com

2. Materials and Methods:

A total of 35 sexual assault cases registered under section 376 IPC and other different sections of the Indian law received for examination during the period January to December 2012 at Regional Forensic Science Laboratory (RFSL), Northern Range, Dharamshala, Himachal Pradesh were studied. To be included in the study the limiting criterion was that they must have originated from three districts of northern region (Kangra, Chamba, and Una) of Himachal Pradesh. The details pertaining to demographic data, social and educational status, age, sex, religion, profession profile, site of incidence, time of interval between incidence and medical examination, relationship with assailants, findings of physical and genital examination and results of evidences collected during forensic lab examination were noted in a self-innovated proforma. The data was collected from police requisition form, medico-legal examination report and forensic laboratory examination of exhibits. Benzidine test was performed to detect the presence of blood, gel diffusion test was performed to detect the species of origin, acid phosphatase test was conducted for detection of semen, and microscopic examination was done to detect the presence of semen on the exhibits. The data was subjected to statistical analysis.

3. Results:

From our observations, it was found that the age of victims ranged from a four year old child to sixty years old women. The most affected age group of victims was 11-20 years in 19 (54.28%) cases followed by 21-40 years in 11 (31.42%) cases. In 2 (5.71%) cases the victims were between 51 to 60 years of age (Table 1). Among the total sample, most of them (77.4%) were unmarried and only (22.85%) were married. Most of the victims were Hindu (85.71%) followed by Muslims (11.42%) and Christian (2.85%).

In 17 (48.57%) of the alleged rape victims were student followed by 7 (20.0%) unemployed, 6 (17.14%) housewives, 2

Table 1: Distribution of victims according to age group

Age group (in years)	Frequency	Percentage (%)
0-10	01	2.85%
11-20	19	54.28%
21-30	07	20.0%
31-40	04	11.42%
41-50	02	5.71%
51-60	02	5.71%

Table 2: Occupation of the victims

Occupation	Frequency	Percentage (%)
Student	17	48.57%
Housewife	06	17.14%
Govt. job	02	5.71%
Unemployed	07	20.0%
Labour	02	5.71%
Child	01	2.85%

(5.71%) Government job, 2 (5.71%) labourers and 1 (2.85%) child (Table 2).

There were 3 (8.57%) cases of gang rape with a maximum of two to three assailants involved. Gang rape by strangers was done in 1 (2.85%) case and by close friends in 2 (5.71%) cases. In 19 (54.28%) cases there was acquaintance between victims and assailants, 6 (17.14%) cases the accused were neighbors, while in 7 (20.0%) cases, the assailant was strangers. In 3 (8.57%) cases the rape was committed by the family members (father, grandfather and tau) of the victim (Table 3). The common site of offence was house of the accused in 11 (31.42%) cases followed by house of the victim in 7 (20.0%) cases (Table 4).

All the victims of sexual assault undergone medico-legal examination, of them 3

Table 3: Type of relationship of assailants with the victims of offence

Type of relationship	Frequency	Percentage (%)
Strangers	07	20.0%
Close friends	19	54.28%
Neighbors	06	17.14%
Father	01	2.85%
Tau	01	2.85%
Grandfather	01	2.85%

Table 4: Place of incidence of offence

Place of incidence	Frequency	Percentage (%)
Victims house	07	20.0%
Accused house	11	31.42%
Fields	05	14.28%
Roadside/isolated place	03	8.57%
Jungle	03	8.57%
Guest house/hotel	06	17.14%

Table 5: Time between alleged coitus and medical examination

Days/weeks	Frequency	Percentage (%)
Same day	03	8.57%
Second day	15	42.85%
Third day	05	14.28%
Fourth day	02	5.71%
5 th -7 th day	01	2.85%
1 st -2 nd week	06	17.14%
1-2 months	03	8.57%

(8.55%) were examined in the day of the

incident, 15 (42.85%) on the second day, 8 (22.85%) within a week while 9 (25.71%) cases were examined after a week to two months of the incident (Table 5).

In 16 (45.71%) cases there was forcible rape followed by consensual rape in 11 (31.42%) cases and invalid consensual rape in 8 (22.85%) cases. Most (97.14%) of the alleged victims of rape were nulliparous and in one (2.85%) case the victim was pregnant. As per medical examination report, there were 22 (62.85%) cases which were habitual of sex followed by 13 (37.14%) non-habitual cases. 4 (11.42%) victims had genital injuries and 7 (20.0%) had extra genital injuries. The simple injuries found on the body of the victims were scratch marks on medial aspect of left thigh, injury on left thigh reddish brown in color, abrasion marks on face, middle and little finger, small contusion on medial aspect of right thigh, multiple contusion on back and chest, injuries and abrasions on knees and lacerated wound, fresh tears on vagina, abrasions on right side of scapula and abdomen, lacerations of fossa navicularis with bleeding, injury of left clavicle, reddish scab, laceration on vulva and vaginal orifice, and lacerations on intraoitus.

Hymen was found ruptured in 31 (88.57%) cases and intact in 4 (11.42%) cases. In 5 (14.28%) cases one finger and in 26 (74.28%) cases two fingers could be easily inserted into vagina of the victim.

Acid phosphatase was found positive in 12 (34.28%) cases. Spermatozoa was found positive in 8 (22.85%) of cases. Cloth piece/towel used for wiping the semen was found positive for spermatozoa in one (2.85%) case, bed sheet in 4 (11.42%) cases, quilt cover in 2 (5.71%) cases and cloth mattress in one (2.85%) case. Blood stains on clothes and undergarments were found in 15 (42.85%) cases. Vaginal swabs and vaginal smear slides showed positivity for spermatozoa in similar number of cases. In this study spermatozoa could not be detected in the vaginal swabs due to late arrival of the victims for medico-legal examination.

Eight (22.85%) cases were registered under Sec. 376 Indian Penal Code (IPC) followed

by Sec. 34,323,354,363,365, 366,417,452, 494 and Sec. 504 IPC.

4. Discussion:

An estimated 1 in 14 women worldwide is sexually assaulted by someone other than a partner, a study has found. The researchers reviewed articles and reports published between 1998 and 2011, and consulted international databases and surveys to find estimates of sexual violence against women, including girls older than 15. They found that, worldwide, 7.2 percent of women reported non-partner sexual violence during their lifetimes (20).

Data from India's National Crime Records Bureau (NCRB) revealed that victims knew their rapist in the majority of reported rape cases, shedding light on an assault epidemic that has drawn international attention in recent. The NCRB's 2012 report found that close relatives or acquaintances of the victims are accused in 98 percent of India's rape cases, as opposed to the traditional belief that most rape occurs when a stranger attacks a woman unknown to him (21). The number of cases of sexual violence could be higher because many victims do not report for the reason that they are ashamed embarrassed or fear of being blamed (22).

In the present study, the age ranges of victims of sexual assaults were from 4-60 years. The most affected (54.28%) age group was 11-20 years. These results are in agreement with the study of Sarkar *et al* (23) Du Mont *et al* (24) and Hasan *et al* (25). Schei *et al* (26) also reported most of the victims were young and were below 20 years. In another study, Tamuli *et al* (27) revealed that the commonest age group was to be 11-20 years. Number of studies had been conducted showing the fact that majority (76.9%) of the victims were adolescents. Our results are in agreement with the studies conducted by Bhardwaj *et al* (28), Roy *et al* (29), Islam (30) And Malhotra *et al* (31). It was also reported that majority of the victims were within the age group of 15-20 years (24). Islam and Islam (30) reported that 33.5% of victims were between 12-15 years. In a study by Sharma

et al (32), it was observed that the incidence of alleged rape is most amongst girls of 15-18 years. Sukul *et al* (33) observed the maximum numbers of natural sexual offences were from the age group of 18-30 years. Bhowmik and Chaliha (34) found 18-20 years as the most common age group involved. Suri *et al* (35) in their study found that 32 % victims in the age group was 11-15 years were most affected.

In our study most of the alleged rape victims 17 (48.57%) were students. Tailor *et al* (36) in their study observed that almost one quarter (23.4%) of victims were students.

In our study, among the total sample, 77.14% of victims were unmarried. Similarly, Sukul *et al* (33) and Bhowmik and Chaliha (34) observed respectively that 77% and 66.93% victims were unmarried. Parveen *et al* (37) in their study in Pakistan found 63% unmarried cases. Roy *et al* (29) in their study observed that unmarried women were greatly involved. In a study done by Sharma *et al* (32), it was observed that the incidence of alleged rape is more amongst unmarried girls. A study by Al Azad *et al* (38) showed that majority of the victims (78.69%) were unmarried. Suri *et al* (35) in their study revealed that 96% victims were unmarried and only 4% were married. As reported in the previous studies Du Mont *et al* (24) found 68.2%, Fimate and Devi (39) 57% victims and Islam and Islam (30) 56.6% victims unmarried.

In our study, only 3 (8.55%) victims' family members had sexual assaults. A study by Shinge *et al* (40) showed that there were two cases in record in which the accused was a family member of the victim, father in law in one case and grandfather in the other. Malhotra *et al* (31) reported that three (8.55%) victims were assaulted by close family member like father, grandfather and tau etc. Among others relatives who have been involved in rape are stepfathers (three), brothers-in-law (five), fathers-in-law (three), cousins (two) and a brother. Suri *et al* (35) in their study revealed that 32% of the assaulted victims were family members and relatives like uncle, brother-in-law and cousins.

In the present study, 19 (54.28%) cases were the victim of close friends and known perpetrator and 7 (20%) cases strangers were involved. Our findings contrast with the study of Fimate and Devi (39) who reported that in 69.7% of the cases assailant was acquaintance and in 25.6% cases assailant were stranger. However, Islam and Islam (30) reported that in majority of cases victim knew the assailant. In a study by Roy *et al* (29), the 80% accused were all known to the victims. Bhomik *et al* (34) reported that the most of the alleged accused (55.4%) was male friend of the victim. In the same study strangers accounted for 16.06% of the accused in cases of victims. The NCRB data (41) revealed that in majority of the cases the assailant was a neighbour. A study by Al Azad *et al* (38) showed that half of the victims (43.91%), the assailant was known. A study by Lackew (42) revealed that 27% accused were neighbours, 42% were strangers and 6.5% were relatives of the victims. In a study by Shinge *et al* (40), it was revealed that in 56.09% cases the accused was a friend of victim and 29.2% accused were known to the victim. There were 9.7% accused were strangers. Suri *et al* (35) in their study revealed that 78% cases were the victim of known perpetrator only 22% cases were victims of strangers.

In the present study, the common site of offence was house of the accused in 11 (31.42%) cases followed by house of the victim in 7 (20.0%) cases. The study by Sarkar *et al* (23) revealed that the common site of offence was the house of the victim (41.1%) followed by house of the accused (28.9%). The most reported site of offence was victim's home as reported by Grossin *et al* (43). The findings of our study are not fully consistent with these studies.

Our study revealed forcible rape in 45.71% cases followed by consensual rape in 31.42% cases and invalid consensual rape in 22.85% cases. Suri *et al* (35) in their study found that 44% cases were raped forcefully followed by invalid consensual sexual intercourse in 25% cases.

In the present study, there were 8 (22.85%) cases of gang rape with a maximum of two

to three assailants involved. Gang rape by close friends was done in 5 (14.28%) cases and by strangers in 3 (8.57%) cases. A study by Al Azad *et al* (38) revealed that 12 (5.22%) victims were gang raped (more than one assailant were involved in sexual intercourse with single victim). Sarkar *et al* (23) observed 7.8% similar incidence and Riggs *et al* (44) found more than one assailant involved in 20% cases.

The present study revealed that 4 (11.42%) victims had genital injuries and 7 (20.0%) had extra genital injuries. The simple injuries found on the body of the victims were scratch marks on medial aspect of left thigh, injury on left thigh reddish brown in color, abrasion marks on face, middle and little finger, small contusion on medial aspect of right thigh, multiple contusions on back and chest, injuries and abrasions on knees and lacerated wound, fresh tears on vagina, abrasions on right side of scapula and abdomen, lacerations of fossa navicularis with bleeding, injury of left clavicle, reddish scab, laceration on vulva and vaginal orifice, and lacerations on intraoitus. The study of Al Azad *et al* (38) revealed that 39.57% victims had genital injuries and 36.09 victims had extra genital injuries. Islam and Islam (30) reported genital injuries in 32.3% cases and extra genital injuries in 21.5% cases. In the study of Shinge *et al* (40) accused had injuries over the body. Most of the injuries were present over the extra genital areas, lower limbs followed by upper limbs. All injuries were simple in nature and most of them were abrasions and contusions.

The present study showed that all the victims of sexual assault undergone medico-legal examination, of them 3 (8.55%) were examined in the day of the incident, 15 (42.85%) on the second day, 8 (22.85%) within a week while 9 (25.71%) cases were examined after a week to two months of the incident. A study of Shinge *et al* (40) showed that the only 19.51% accused of the alleged rape were examined with 24 hours of the incident. As many as 56.09% cases were examined when more than 6 days have elapsed since the incident took place. In

Sarkar *et al* (23), 10% of the accused were examined on the first day and 61.11% were examined after 6 days which are similar to our study findings.

In the present study, only in 31 (88.57%) cases hymneal tear or rupture of hymen was found and in another 4 (11.42%) cases hymen was found to be intact. Sarkar *et al* (23) reported hymen rupture in 85 % cases. Islam & Islam (30) found hymneal tear in 38.9% cases and Bhomik *et al* (34) found 8.88% cases of intact hymen and 1.97 % cases of recent tears of hymen.

The present study showed that only 1 (2.85%) victim became pregnant after the sexual assault. Sukul *et al* (33) found that 16.09% cases became pregnant following the act of sexual intercourse. Boonma *et al* (45) in their study reported that 3.2% cases were pregnant at the time of examination. A study by Bhomik *et al* (34) showed 5% cases of pregnancy. Suri *et al* (35) in their study found that 2% adult and 4% minor rape victims became pregnant as a result of their assault. The findings of our study are consistent with other studies.

As the number of cases of rape is increasing day by day there is a need of detection of semen and sperm. In the present study, semen stains were observed on clothes, undergarments, vaginal swabs, bed sheets, quilt cover, duster/towel and sanitary pad. Acid phosphatase was found positive in 12 (34.28%) cases and positivity for spermatozoa in 8 (22.85%) cases. Blood was detected on clothes, undergarments, towel and sanitary pad in 42.85% cases. Sarkar *et al* (23) revealed that spermatozoa were positive in 5.55% cases, while Riggs *et al* (44) reported evidence of spermatozoa in 48% cases and Grossin *et al* (43) reported positive result in 30.3% cases. Gray-Eurom *et al* (46) reported that 31% cases were spermatozoa positive. The absence of sperm may be due to washing of genital after the incident. The study of Sarkar *et al* (23) showed positivity for spermatozoa in 5.5% cases and for acid phosphatase in 3 cases.

5. Conclusion:

The violence against women is a global pandemic and there has been dramatic increase of sexual assault, and especially of acquaintance rape. Globalization, modernization and communication have quickly and radically transformed the traditional societies which pave the way for changes in traditional values embodied in culture. The anti-rape protests and legal reforms had a diverse effect on the Indian society. The vulnerable group of sexual assaults belonged to 11-20 years indicating that young women and children are usually to be more at risk. This study indicated that the majority of assault is perpetrated by an acquaintance of victim or sexual victimization with dating relationships attributing that women have more danger from their known persons who keep moral values and ethics at bay. Later on the cases were filed by the girl herself, her parents or relatives who did not approve this relationship and in some cases for retaliation. The victims shared information pertaining to an assault to family and friends only due to some psychological barriers, stigma and other social reactions that contribute to victim feeling of shame and embarrassment. Thus to define rape or attempted rape is difficult. There were some evidences of forceful sexual intercourse observed at the time of medical examination. Delay in medical examination and reporting of cases resulted in loss of vital physical evidences as no concrete report could be generated from the forensic lab after examination of specimens thus there should be coordination among doctors, forensic experts and investigating agency.

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