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VIOLENCE AGAINST WOMEN: AN ANALYSIS OF THE EPIDEMIOLOGY AND PATTERNS OF INJURY IN RAPE HOMICIDE IN CAPE TOWN AND IN RAPE IN JOHANNESBURG

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PREFACE

The study described in this dissertation comprises two parts. The data for the study sample that comprises Series 2 were collected in 1993. The data for the study sample Series 1 were collected from 1996 to 1998.

This dissertation was carried out in the Department Forensic Medicine and Toxicology, University of Cape Town, under the supervision of Professor G.J. Knobel

I, Lorna Jean Martin, hereby declare that the work on which this thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other University.

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This work is dedicated to all women who have suffered some form of interpersonal violence at the hands of men.

ABSTRACT

Violence against women is an important cause of morbidity and mortality in South Africa and indeed the rest of the world. Women and men are equal and must have equal guarantees of economic, social, civil, political and cultural rights. Women who are denied the basic right to security cannot participate equally in society. Violence denies this basic human right.

This study is descriptive and includes a retrospective analysis of rape survivors in Johannesburg from 1992, and a prospective analysis of rape homicide victims from Cape Town from mid 1996 to end 1998. The results have been analysed into demographic variables and compared to trends from the rest of the world. The epidemiology and pattern of injury of these violent crimes have been specifically targeted.

The main findings were:

1. The incidence of rape in Johannesburg in 1992 was 165 per 100 000 women.
2. Rape in Johannesburg is seasonal and occurs mainly in young African women, by strangers.
3. Approximately one third of rape survivors sustain non-genital as well as genital injury.
4. Most injuries can be classified as minor or moderate and comprise contusion, abrasions and lacerations.
5. The incidence of rape homicide in Cape Town is 7.2 per 100 000 women, which represents a fatal sexual assault rate of 1.23%.
6. The majority of rape homicide victims were coloured women in the age group 26 to 45 years.
7. Of those murdered by people known to them, a current or ex-intimate partner murdered 18.6%.
8. 98.3% of rape homicide victims had non-genital injury, and 55.9% had evidence of genital injury.

9. Most rape homicides have evidence of mechanical asphyxiation included in the mechanism of death.
10. The body areas most targeted by perpetrators in sexual assault are the head, neck and upper limbs.
11. The majority of the minor genital injuries comprise abrasions and lacerations to the posterior fourchette and introitus.

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ABBREVIATIONS

SA	South Africa
US	United States
DS	District Surgeon/s
SAPS	South African Police Service
SRML	Salt River Medico-legal Laboratory
MLC	Medico-Legal Clinic
FP	Forensic Pathologist/s
GSH	Groote Schuur hospital
BAC	Blood alcohol concentration
PHCW	Primary Health Care Worker

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Chapter 1: INTRODUCTION

1.1 INTRODUCTION

Sexual violence against women, has been part of humanity since time immemorial. It was only with the emergence of the women's rights groups in the 1970's that the violation of women was recognised as a crime against the person. As a result of the pressure applied by such feminist groups, women and men realised that it was not a man's right to force women into sexual encounters[1, 2]

This led to numerous significant changes in legislation in some countries, publication of scientific papers by the medical profession and a slow change in attitude by some.

1.2 DEFINITIONS

Violence against women was described by the working group of the 1994 Women's Health Conference (South Africa) as a violation of basic human rights, and they acknowledged it as being an enormous problem. They include sexist jokes, sexual harassment, pornography, incest, rape, battery and murder in their range of violence.[3]

Violence against women is defined by the Women's Health Project as any act of abuse perpetrated against women, intended or unintended, of verbal, emotional, psychological, sexual or physical form, which threatens to undermine the health and well-being of the person.[3]

In 1992 the United Nations Commission on the Status of Women proposed a definition of violence against women which includes: "any act of gender-based violence that results in, or is likely to result in, physical, sexual, or

psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life".[4] They include many specific categories of such violence against women. The categories specifically targeted in this study are the crimes of rape-homicide and rape.

Murder is defined as the unlawful and intentional causing of the death of another human being.[5]

Rape is defined as the unlawful, intentional sexual intercourse with a female, by a male, without her consent.[5]

Both of these crimes are common law crimes.

Sexual offences are further defined in the Sexual Offences Act, No. 23 of 1957.[6] This Act creates a number of offences relating to sexual intercourse or sexually indecent acts, as well as related conduct, such as keeping a brothel, procuration and prostitution. The sexual acts, which are defined in the Act, relate to offences against young people (< 16 years) and against idiots or imbeciles.[6]

1.3 SOUTH AFRICAN SITUATION

South Africa (SA) unfortunately has been slow in catching up with the First World in the recognition, and appropriate handling of the prolific crime of rape. The enormity of this crime is illustrated by the ever increasing annual figures of reported rape cases, i.e. from 15 342 in 1983 to 32 107 in 1994.[7] It should be noted that the 1994 figures were estimated by the police to be *only* 2.8% of the actual rape cases perpetrated.[8]

In 1997 the number of reported rape cases had increased to 52 160[9], and by the end of June 1998 this figure was 23 374.[10]

A further aspect of great concern involving violence against women, is that of the crime of femicide, defined as the murder of a woman by an intimate male partner. This was found to occur at a rate of one every six days during 1993 and 1994 in Gauteng, SA.[11] The murder of a woman by her intimate partner is *the* most extreme form of domestic violence. Although this study does not attempt to cover the realm of domestic violence, it is also an enormous problem in SA.

A study in Johannesburg showed that the majority of women presenting to hospital with an assault had been attacked at home by an intimate partner.[12]

1.4 UNITED STATES SITUATION

Estimated incidences for rape in the United States (US) range from 28 to 70 per 100 000 women.[1]

In spite of proclamations and the establishment of various Boards, Commissions and the holding of Conferences, a further body was established in 1995 in the United States by their National Research Council to increase understanding of violence against women. This "Panel On Violence Against Women" declared in 1997, that there were major shortcomings in the comprehension of violence against women and advocated further research to delineate prevalence, incidence, perpetrators and victimization of women.[13]

In the United States over 50% of women that are murdered, are killed by a current or former male partner, [14] whereas a study in Japan in 1991 revealed that in 18.2% of women who were victims of murder or attempted murder the assailant was the husband.[15]

1.5 MOTIVATION FOR THE PRESENT STUDY

This study is an attempt to provide details relating to the epidemiology of rape, as well as the pathology of injuries sustained by survivors (living) and by victims (deceased) of sexual violence.

The author's interest in this field began with her employ as a District Surgeon (DS) in 1991[1]. During this time, it was noted by the author that no recent research had been done concerning the epidemiology of rape in Johannesburg, nor regarding the medical aspects of rape specific to SA. Consequently, the author undertook the research presented here as Series 2. This initial research fueled the motivation to conduct further investigation into this crime. It was then noted that the South African Police Services (SAPS) did not keep rape homicide statistics. A thorough Med-Line search revealed that no research had been done into fatal rape attacks in SA, and that only one such study had been done 20 years previously in the US. The author thought it relevant for SA, to elucidate the extent of this crime through scientific research.

Accordingly, two series of data have been used for this purpose. The first series comprises all rape homicides that presented to Salt River Medico-legal Laboratory (SRML) from 1st July 1996 to 31st December 1998. The second series includes all rape survivors who presented to the Medico-Legal Clinic (MLC), Hillbrow, Gauteng in 1992, whilst the author worked at the MLC as a DS.

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[1] The author was employed as a full-time DS by the Department of Health, Gauteng at the Johannesburg District Surgeons Office, from 1st January 1991 to 31st December 1994. Then as a Registrar in the Department of Forensic Medicine, University of the Witwatersrand, and as a part-time DS for the 18 months following this. The author was then transferred to the Department of Forensic Pathology and Toxicology, University of Cape Town, where she took up a Registrar post.

The medical evidence in cases of sexual assault is usually regarded as being of primary importance to the courts and forensic medical examiners. There are usually no witnesses to crimes of sexual violence and the medical expert provides the only corroborating evidence. In SA District Surgeons and Forensic Pathologists (FP) are largely responsible to provide this medical expertise.

The present emphasis on the medical evidence is, however, a significant change to the previous school of thought by the medical profession. In 1976 doctors, and more specifically gynaecologists, were being advised to "avoid a pelvic examination at the height of acute trauma" as it was felt that "no medical proof of rape is either necessary or possible". [1]

The doctor who performs the forensic medical examination is in a unique position. Firstly, as a caring empathetic practitioner tending to the need of the patient with her presenting complaint, the normal doctor-patient confidentiality is maintained. Secondly, being an impartial examiner documenting and collecting evidence for a third party, usually the courts.[16] DS regularly find themselves in this difficult position of changing roles within the examination.

This is evidenced in an article by a DS which appeared in the South African Medical Journal in 1996.[17] In the article the author looked at his own cases over the previous 4½ years and concluded that because only 10% of women examined had any medical evidence to support their claims of rape the entire exercise was "a very poor return for the expenditure of much time, effort and money". He went on to say that legislation should be passed to prosecute women who lay charges of rape which are unfounded, implying that in 90% of the women laying charges they had malicious intent. It is obvious from the tone of this particular article that the author had lost his ability to be empathetic and sympathetic. It is also apparent that in SA DS, in general, have earned themselves this reputation of having unsympathetic and uncaring attitude.[7, 18] It appears that much work is needed to be done by the Department of Health to change this perception or possible reality.

Lazarus succinctly sums up the role of the doctor in these situations when he states that doctors should not feel that they have to verify a complainant's statement, but should merely offer appropriate intervention and limit traumatisation[19].

In addition, it is hoped that this study can help dispel the myth, believed by many, judiciary included, that a woman who has been sexually assaulted must have severe injuries.

1.6 OBJECTIVES OF THIS STUDY

To document and analyse the extent of violence against women by specifically looking at the crimes of rape and rape homicide in South Africa, and to compare these to other research.

To describe the typical patterns of injury associated with sexual assaults and to compare these to the findings of studies elsewhere.

To identify potential areas of risk for women.

It is intended that documentation of the number and types of injuries sustained by rape survivors and rape victims will aid doctors in medicolegal examinations, and contribute towards the formulation of management protocols.

This is of specific value because numerous doctors find themselves having to examine such cases with little or no training in this highly specialised field. The author also suspects that the number of doctors finding themselves in this position will increase with the advent of compulsory community service.

1.7 *PRESENTATION OF STUDY*

The study is divided into several chapters.

The study sample has been presented as Series 1 and Series 2. Series 1 comprises the data obtained from the rape homicide cases at SRML. These subjects are referred to as rape victims throughout this study. Series 2 comprises the living patients that were seen by the author during her clinical forensic career. These patients are referred to as rape survivors throughout the study. The author has chosen to use the terminology rape survivor to avoid the negative connotations that accompany the use of the word victim. It is felt that women who have been raped, and live, should be referred to as having survived the attack and not as having been victims.

Although, not in chronological order, the author has presented Series 1 first as it is felt to be more pertinent to the author's field of study at present.

Chapter two describes the methodology of this research and the resources utilised and consulted.

Chapter three presents the demographic findings within the two series. Discussion concerning each epidemiological factor is presented after the results in each section. This is done for ease of reading and comparison, as each of the variables present significant findings.

Chapters four and five present the results of the injuries sustained by the subjects of the study. In these chapters the results are first presented and the discussion follows at the ends of each chapter. Again, this is done for ease of presentation and reading.

Chapter six finalises the study with conclusions and recommendations.

REFERENCES

1. Sloan D. Rape: The Gynecologist's Role. J Reprod Med. 1976 Dec; 17(6): 324-326.
2. Hicks DJ. Rape: Sexual Assault. Obstet Gynecol Annu. 1978; 7: 447-465.
3. Budlender D, editor. Health In Our Hands. Proceedings and Policies of the 1994 Women's Health Conference; 1994 Dec 3-6; Johannesburg. Johannesburg: Women's Health Project, 1995.
4. Heise L. Violence Against Women: the hidden health burden. World Health Stat Q 1993; 46(1): 78-85.
5. Snyman CR. Criminal Law. 2nd ed. Durban: Butterworths, 1989.
6. The Sexual Offences Act. Act 23 of 1957. Statutes of the Republic of South Africa – Criminal Law and Procedure 1957. As Amended, 1993.
7. Human Rights Watch / Africa Human Rights Watch Women's Rights Project. Violence against women in South Africa: The State Response to Domestic Violence and Rape. New York: Human Rights Watch, 1995.
8. "Huge jump in Number of Reported Rapes". Sunday Times May 8, 1994.
9. South African Institute of Race Relations. South Africa Race Relations Survey 1997/98.
10. South African Police Services. Crime Information Analysis Center. 1999.
11. People Opposing Women Abuse. "Man Shoots Wife": A Pilot Study Detailing Intimate Femicide in Gauteng, South Africa. Johannesburg: People Opposing Women Abuse, 1996.
12. Butchart A, Brown DSO. Non-Fatal Injuries due to Interpersonal Violence in Johannesburg – Soweto: Incidence, Determinants and Consequences. *Forensic Sci Int* 1991 Dec; 52(1): 35-51.
13. McMahon PM, Mercy JA. Understanding Violence against Women [book review]. N Engl J Med 1997 Jan 23: 300.
14. Council on Scientific Affairs, American Medical Association. Violence Against Women, Relevance for Medical Practitioners. *J A M A* 1992 Jun; 267(23): 3184-3189.

15. Yoshihama M, Sorenson SB. Physical, Sexual, and Emotional Abuse by Male Intimates: Experiences of Women in Japan. Viol Vict 1994; 9(1): 63-77.
16. Rogers D. Physical Aspects of Alleged Sexual Assaults. *Med Sci Law* 1996 Apr; 36(2): 117-122.
17. Craven SA. Assessment of alleged rape victims – an unrewarding exercise. S A M J 1996; 86(3): 237-238.
18. Stanton S, Lochrenberg M. Justice for sexual assault survivors? State role-players' perceptions of the success of the Wynberg Sexual Offences Court and associated services: Report for the Institute of Criminology, University of Cape Town, Rape Crises, and Lawyers for Human Rights; 1994 Nov.
19. Lazarus JR. Reactions to rape – the need for a social context. S A M J 1981 Mar; 59(13): 462-464.

Chapter 2: METHODS AND MATERIALS

Introduction

In the present study the injuries sustained by deceased victims and living survivors have been recorded and classified as follows:

Series 1: Deceased victims of sexual violence

a) Type
b) Situation
c) Genital or non-genital
d) External and internal

Series 2: Living rape survivors

a) Type
b) Situation
c) Genital or non-genital

2.1 SERIES 1: DECEASED VICTIMS

This was a prospective study of all rape homicide case from the period 1st July 1996 to 31st December 1998. The records of all females admitted to the SRML during this period were studied and the victims of fatal sexual violence extracted.

Identification of rape homicide was made by using the:

- Lab 27 (report which accompanies the body prior to autopsy and includes information from the investigating officer, as well as the mortuary attendants on the scene)
- Autopsy report
- Register of specimens.

There is no separate statistic kept by the police at SRML for rape homicide.

From the Death Register number of each identified case, the police station and case number were obtained from the police database at SRML. Each investigating officer was interviewed, telephonically or in person, following a set pro forma of questions (Appendix A).

From the records, 63 potential cases were identified. Perusal of the autopsy results and follow up enquiries established that four of these cases were not related to a sexual assault, and these were excluded from the study.

The remaining 59 cases were analysed using Microsoft Excel© for demographic variables, which included:

- Age of victims
- Ethnic group of victims and perpetrators
- Place victim last seen alive
- Place victims' bodies found
- Blood alcohol level in victims
- Perpetrator status to victim
- Number of perpetrators per case
- Inter-ethnic distribution of perpetrators and victims
- Trial status and sentences handed down
- Distribution of cases as a function of
  - *SAPS station
  - *Month
  - *Time of day
  - *Type of weapon used
  - *Cause of death

The type and distribution of injuries sustained by each victim was similarly analysed and grouped. These were divided into injuries visible on external examination of the body, and those apparent on internal examination during the autopsy procedure. In some instances, photographs of these injuries were taken. The categories for external injury were chosen as head, neck, upper limbs, anterior chest, posterior chest, anterior abdomen, posterior abdomen, buttocks, and lower limbs. The areas recorded for documentation of internal

injury were taken from the standard paragraph headings of the autopsy report (Appendix B).

Genital injuries were categorised into external, internal, and the anal region, (which were included in this study as a genital injury).

- External categories included labia majora, labia minora, the introitus (which includes the hymen), vestibule, and posterior fourchette.
- Internal categories comprised pelvic walls, vagina, cervix, uterus and ovaries.
- Anal region injuries included the perineum, anal verge, and anus.

Of the 59 cases included in this study sample, the initial assault in two of the cases occurred in an area outside of the Greater Cape Metropole. The decedents were transferred to Groote Schuur hospital, where they died, and thus were autopsied at SRML. These two cases have been included in the study sample to illustrate epidemiological factors and patterns of injury. They have however been excluded from the calculation of rape homicide rates for the Greater Cape Metropole.

The author performed the majority of the autopsies in this series (70%), and where this was not the case, she discussed the autopsy findings with the relevant pathologist.

In every case a bloodless dissection of the neck was performed. The procedure followed was to place a block under the neck, open the skull and remove the brain, then open the chest and remove the thoracic contents. Following which, the layered technique as described by Gordon and Shapiro, was used to avoid any post-mortem dissection artefacts.[20] After careful inspection of the external genitalia, and collection of appropriate forensic evidence the genital organs were removed by a slightly modified technique than described by Knight.[21] That is the pelvic block is mobilised from its attachments to the bony pelvis to include the anal canal, rectum, internal

genitalia and bladder. An incision is made externally around the introital opening, medial to the labia minora, extending posteriorly to include the anus. The pelvic block is then removed en-masse from the abdominal cavity. The vagina is opened along its lateral walls, avoiding any injury, and it, as well as the cervix, closely inspected and photographed where appropriate. The uterus is incised from anterior to posterior along its midline and the uterine cavity inspected. The tubes and ovaries are similarly carefully inspected. The anus is opened, away from any externally identified injury, to the rectum, carefully washed after appropriate specimens have been taken, and inspected for injury.

In a very small proportion of the cases the scene of crime was visited by the pathologist on call (five cases in total), and data from the subsequent scene of crime reports were incorporated in this study. It should be noted that during this time the author made herself available to all stations within the jurisdiction of SRML to visit the scene of crime for all homicides with evidence of sexual assault. Unfortunately, the author was only called to four cases. The photographs from the scene of crime were referred to when available (56%).

2.2 SERIES 2: SURVIVING VICTIMS

This series comprises of a retrospective study of all rape cases seen at the MLC in 1992. The MLC is operated under the auspices of the DS office in Johannesburg, and is situated in Hillbrow. It serves the police districts of Johannesburg and Johannesburg North, which includes 18 SAPS stations. The clinic is staffed by a Nursing Assistant or Professional Nurse, and a DS is immediately available during office hours, and on call after hours. The MLC is open on a 24-hour basis. Only cases that have been reported to the SAPS are seen at the MLC, and this excludes any cases that are in need of urgent medical attention for bodily injuries.

For every patient who visits the MLC a copy of the report of the examination is kept on file. This report, which is included in the docket, usually is in the form of a J88. The J88 form is a standard SAPS document, which is used for documentation of injuries in cases of assault, including sexual assault. (Appendix C). In addition, the patient's consent form (SAP 308) is also kept at the MLC and this contains notes from the investigating officer relating to the crime. There is also a daily register kept by the nurses, in which records basic demographic details of each patient are recorded, as is the nature of specimens and treatment for each case.

From the records kept at the MLC, the author was able to obtain 'complete', anonymous, information for 432 out of the 584 cases seen in 1992. Further enquiries from the various officers-in-command of the CID divisions of each police station resulted in complete information for the remaining 152 cases.

The demographic data were then analysed according to the following categories:

- Age and ethnic group of the survivor
- Age and ethnic group of the perpetrator/s
- Inter-ethnic distribution of the cases
- Number of perpetrators per case
- Relationship of perpetrator to victim
- Distribution of cases as a function of: SAPS station
  Month

The injuries sustained were recorded as non-genital injuries and genital injuries. Non-genital injuries were then grouped into five body areas for the purpose of documentation and illustration as follows:

- Area 1 head
- Area 2 upper limbs
- Area 3 anterior neck, chest and abdomen
- Area 4 posterior neck, chest and abdomen

- Area 5 lower limbs (includes buttocks)

Genital injuries were documented as per Series 1, but without the examination of the uterus and ovaries.

The author examined approximately 20% of the patients seen at the MLC in 1992. The doctors employed by the Transvaal Provincial Administration, (now Department of Health, Gauteng) in 1992 were all full-time or part-time DS.

Based on the results of the 1992 study, the author developed a protocol book, which included a data collection sheet that was used in the MLC from mid 1994 (see Appendix D). The purpose of this data collection sheet was to make relevant demographic data from rape survivors easily available for further research.

REFERENCES

20. Gordon I, Shapiro HA. Forensic Medicine A Guide to Principles. 2nd ed. Edinburgh: Churchill Livingstone, 1982.
21. Knight B. Forensic Pathology.2nd ed. London: Arnold 1996.

Chapter 3: DEMOGRAPHICS

3.1 SERIES 1: DECEASED VICTIMS

3.1.1 EPIDEMIOLOGY: VICTIMS

3.1.1.1 Incidence

Introduction

Although deaths involving sexual activity do not greatly contribute towards the workload in any forensic department, they are by no means rare. The usual determinant of the cause of death i.e. murder, accident, suicide or natural causes is applied to these cases. It would seem logical to infer that the number of natural deaths that occur during a sexual activity would outnumber the other sex-related causes of death. Similarly, accidental sex related deaths should be greater than rape homicides. Hazelwood et al[22] categorise death associated with sexual activity into three groups: natural deaths during intercourse (including masturbation), autoerotic asphyxial deaths and lust murders. Although autoerotic deaths are infrequent, they are regularly seen in the forensic literature as case reports, probably owing to the unusualness of the cases. By far the majority of autoerotic deaths involve men who act alone, women are usually involved as partners in these cases. These types of deaths are usually classified as accidental or suicidal.

Homicide related to sexual activity, rape homicides in this study, is often referred to as 'lust murder' in the literature from the United States (US). Of deaths associated with sexual activity in the US, 'lust murders' are reported to occur least frequently.[22] The author prefers not to use the term 'lust murder' as it implies an element of uncontrollable sexual excitement, and detracts from the violent nature of the crime. An extensive search of the medical literature found only one article describing a series of fatal sexual assault. [23]

Results

The annual number of rape homicides and reported rapes for the study period are illustrated in Table 3.1.

Period	Number of cases (n=57)	Number of reported rapes in same areas[30] (n=3660)
1st Jul 1996 to 31st Dec 1996	8	552
1st Jan 1997 to 30th Jun 1997	10	1011
1st Jul 1997 to 31st Dec 1997	12[a]	1153
1st Jan 1998 to 30th Jun 1998	16	944
1st Jul 1998 to 31st Dec 1998	11[b]	

TABLE 3.1: SERIES 1 – ANNUAL NUMBER OF CASES BY SIX-MONTH PERIODS

NOTE: [A] - EXCLUDES CASE FROM LAAIPLEK (OUTSIDE GREATER CAPE METROPOLE)

[B] - EXCLUDES CASE FROM VREDENBERG (OUTSIDE GREATER CAPE METROPOLE)

From the 3 660 reported rape cases over the 24 month period 1st July 1996 to 30th June 1998 there were 46 fatal rape incidents. Based on the number of fatalities from reported rape cases, the average incidence rate for rape homicide, for the area served by the SRML, is 1.23%.

Discussion

Figures from the US reveal that out of 154 000 reported rapes and attempted rapes 185 fatalities occurred in 1983, representing an incidence of rape homicide of 0.1%[24]. Other studies quote rape homicide incidence rates of 0.3 to 3%, [25-29] which are all from the 1970's.

Unfortunately, rape homicide incidence rates are not available for SA as the SAPS does not record this as an individual statistic. A crude incidence rate has been estimated from this series, by taking the number of reported rapes in

the Magisterial districts which are served by SRML, and the number of fatal sexual assaults in the same period of the study period (see above).

The rape homicide rate in Cape Town[a] (1.23%) for the study period is twelve times higher than the latest available figure from the US. The Cape Town figure for the first six months of 1997 is 0.99% and for 1998 is an appalling 1.70%. This represents an almost doubling of the rate at which women in Cape Town are becoming victims of fatal sexual assaults.

3.1.1.2 Geographic Distribution

Introduction

The Western Cape is populated by almost 4 million people, just over fifty percent of which are women.[31] The population of Greater Cape Metropole is approximately 2,4 million people, of which 35% live in the Northern Sub-structure and 65% in the Southern Sub-structure. Two mortuaries serve the Greater Cape Metropole. SRML, which is attended by the Department of Forensic Pathology of the University of Cape Town, provides a service to the Southern Sub-structure. Tygerberg mortuary, attended by the Department of Forensic Medicine of Stellenbosch University, provides a service to the Northern Sub-structure. The areas of the Greater Cape Metropole which fall under the jurisdiction of the SRML at present are illustrated in Figure 3.1.

From 1st July 1996 to The 10th August 1998 of the study period, Khayelitsha was included in the jurisdiction of the SRML. Since 11th August 1998, Khayelitsha cases are autopsied at the Tygerberg mortuary. In the period 11th August 1998 to 31st December 1998, no rape homicide cases were received into the Tygerberg mortuary.[b] Based on the previous 25 months experience it is the author's opinion that this is under reported.

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[a] Cape Town is used from here forwards to mean the area of the Greater Metropole served by SRML, i.e. the Southern Sub-structure.

[b] Personal communication Sgt Van Der Westhuizen Tygerberg mortuary.

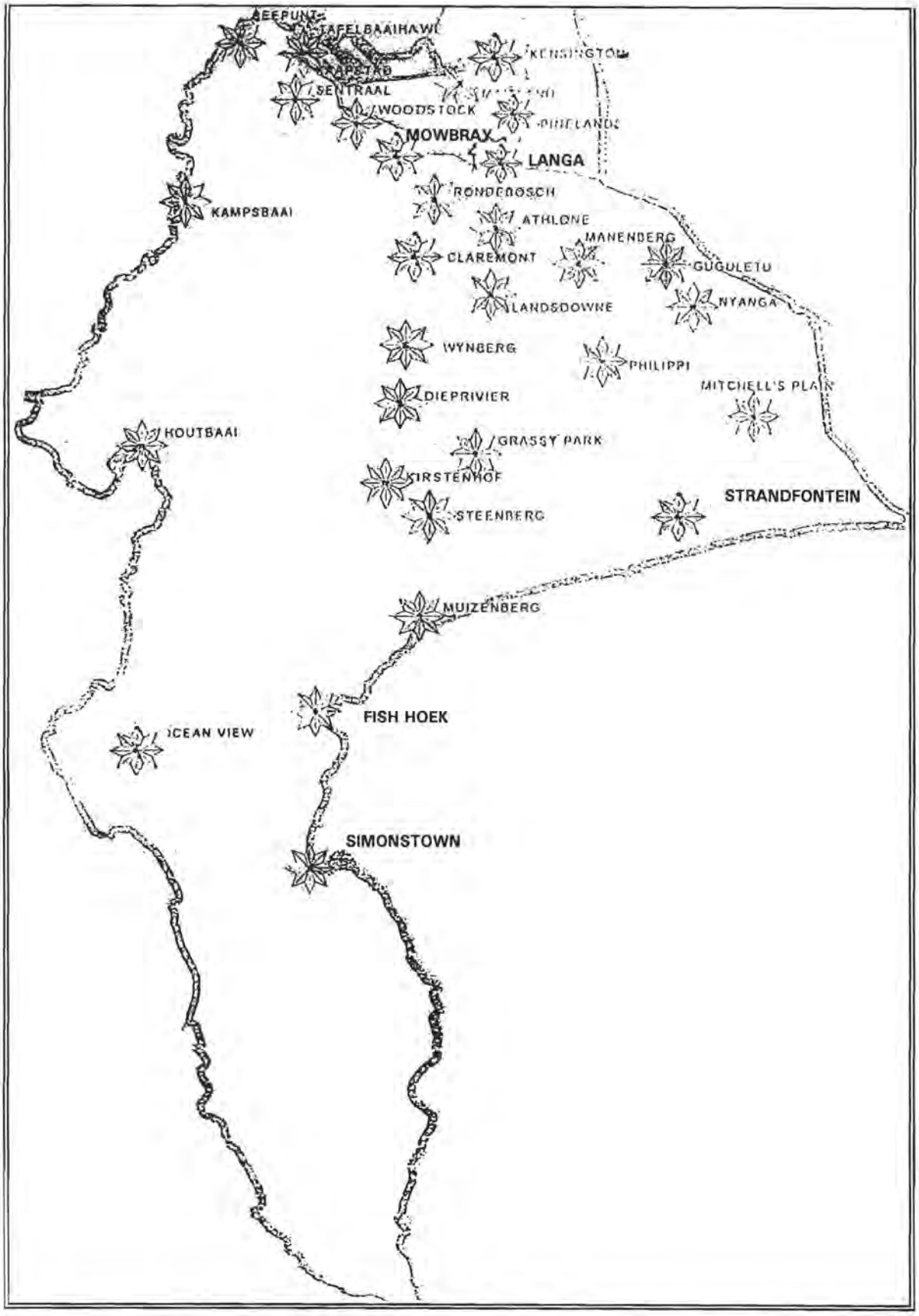


FIGURE 3.1 : SERIES 1 - MAP OF AREAS SERVED BY SRML

Results

The geographic distribution of the 59 cases in this series is illustrated in Table 3.2. Included in this series are the two cases from outside the jurisdiction of the SRML, i.e. those from Laaiplek and Vredenberg, (*Case 30 and 50* discussed on page 23).

Station	Number of cases	Station	Number of cases
Athlone	1	Milnerton	1
Cape Town	5	Mitchells Plain	8
Fish Hoek	1	Muizenberg	4
Grassy Park	1	Nyanga	3
Guguletu	3	Ocean View	2
Hout Bay	1	Philippi	1
Kensington	2	Philippi East	2
Khayelitsha	6	Seapoint	4
Kistenhof	2	Simon's Town	1
Laaiplek	1	Steenberg	2
Langa	1	Vredenberg	1
Lansdowne	2	Woodstock	2
Maitland	1	Wynberg	1

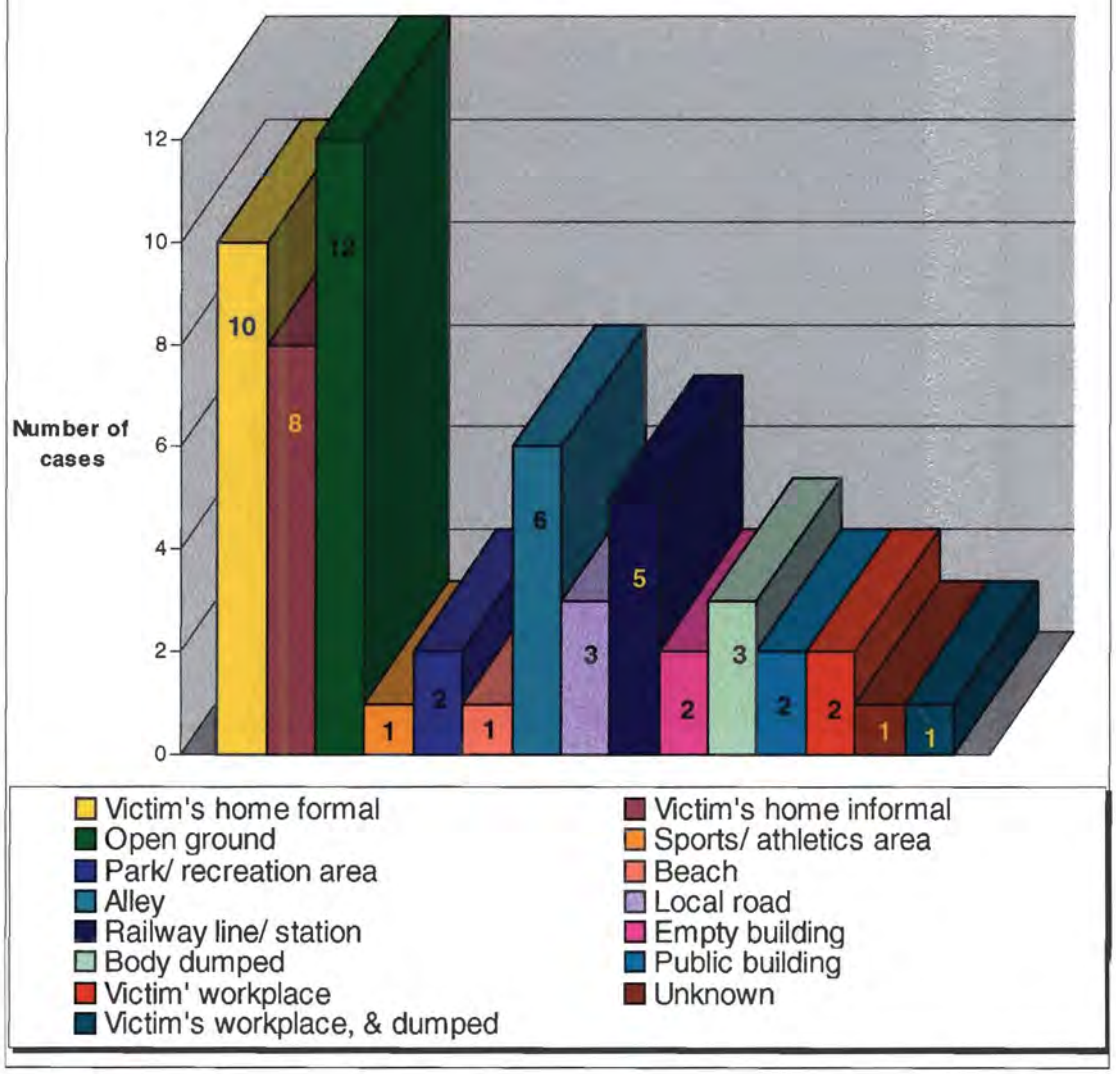
TABLE 3.2: SERIES 1 - DISTRIBUTION OF CASES AS PER SAPS STATION

In this series the majority of women died in or close to their homes (73%). The remainders were found in a nearby suburb (17%), or at a distance from their homes (3%). In 4 cases (7%) the distance from the decedents' home is not known, as these women are still officially unidentified and no home address is known. In the entire series, five women are still officially unidentified, however

the one case included in the figure above (*Case 41*) was a sex worker in the area where she lived and died. Her colleagues in the area identified her as such, although none of them could give the investigating officer her proper name or knew from where she originated.

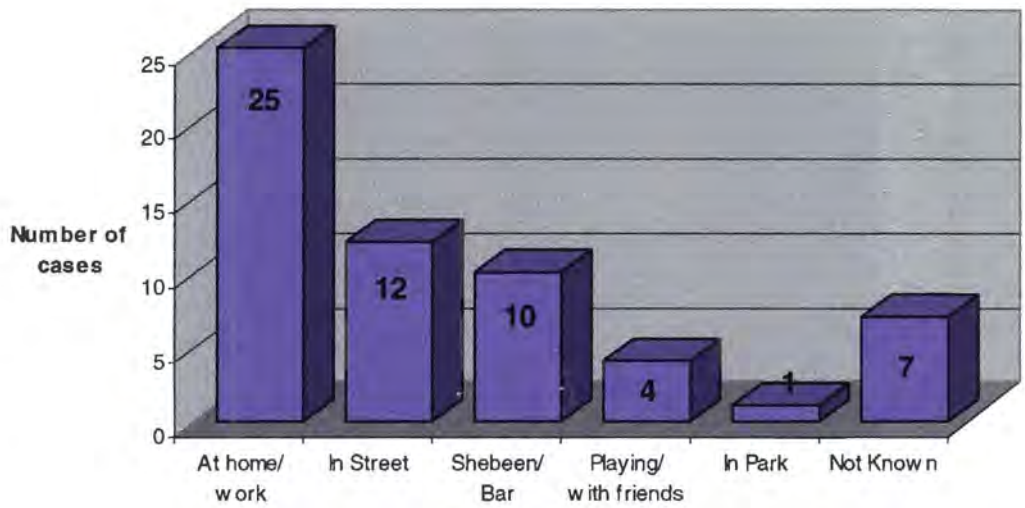
From the data illustrated in Figures 3.2 and 3.3, it is clear that most women are attacked either in their home (31%), whilst walking in the street (20%), or after having been recently seen at a Shebeen or bar (17%)

Figure 3.2: SERIES 1 - Location of Murder (n=59)



NOTE: UNKNOWN – CASE 21, ASSAULTED AT VAGIESKRAAL SQUATTER CAMP, RETURNED HOME, AND FOUND DEAD IN THE MORNING.

Figure 3.3: SERIES 1 - Place Victim Last Seen Alive (n=59)



Discussion

Case 30: the deceased, a 40 year old coloured woman from Laaiplek, was assaulted on a Sunday evening by her common-law husband, who was allegedly under the influence of alcohol at the time. She complained of a headache after the assault, and went to sleep. She could not be aroused and was taken to the local hospital in Vredenberg. She was transferred to GSH, where she died the following day. The docket is at present at the Director of Prosecution's office.

Case 50: the deceased, a 45 year old coloured woman from Vredenberg, was attacked in her own home (informal shack dwelling without electricity) on a Friday evening. Her brother was present at the time of the attack, allegedly strongly under the influence of alcohol, and tried unsuccessfully to prevent the assault. The assailant is an unknown African male. The deceased was

admitted to Vredenberg hospital, then transferred to GSH, where she died two days later from head injuries. The scene was not examined for evidence as the case was only reported to the police after the patient had died, and the family had already inadvertently removed all evidence.

A study of 41 fatal sexual assaults over 22 years in Dade County, Miami, Florida revealed that 54% of the victims were murdered in their own homes, and the remainder found in canals, fields or vacant ground.[23] In that study the majority of the victims murdered at home were in the older age range for total victims, whereas those found elsewhere had an average age of 31.5 years. The average age of the 18 victims in Cape Town who were murdered at home was 41.2 years, with a range of 16 to 83 years, whereas the remaining 41 averaged 29.2 years, with a range of 3 to 69 years.

3.1.1.3 Age and Ethnic Distribution

Results

The ethnic distribution of the victims in Series 1 is reflected in Table 3.3 and compared to the total female population by ethnic group for the area. The figure for the total female population of the area (788 921) was calculated from the 1996 population census figures.[31] The four Magisterial districts from the census population used to calculate the total population served by SRML are Cape, Mitchells Plain, Simon's Town and Wynberg.

	Number and percentage of cases	Number and percentage of population[31]
African	16 (25%)	265,651 (33.7%)
Coloured	40 (70%)	347,483 (44%)
White	3 (5%)	130,472 (16.5%)

Note: the total population for the area in question is 788,921 women.[31] The remainder of the total female population is made up of Indian/Asian and Unspecified/Other.

TABLE 3.3: SERIES 1 - ETHNIC DISTRIBUTION OF VICTIMS

The age distribution of the victims is reflected in Table 3.4.

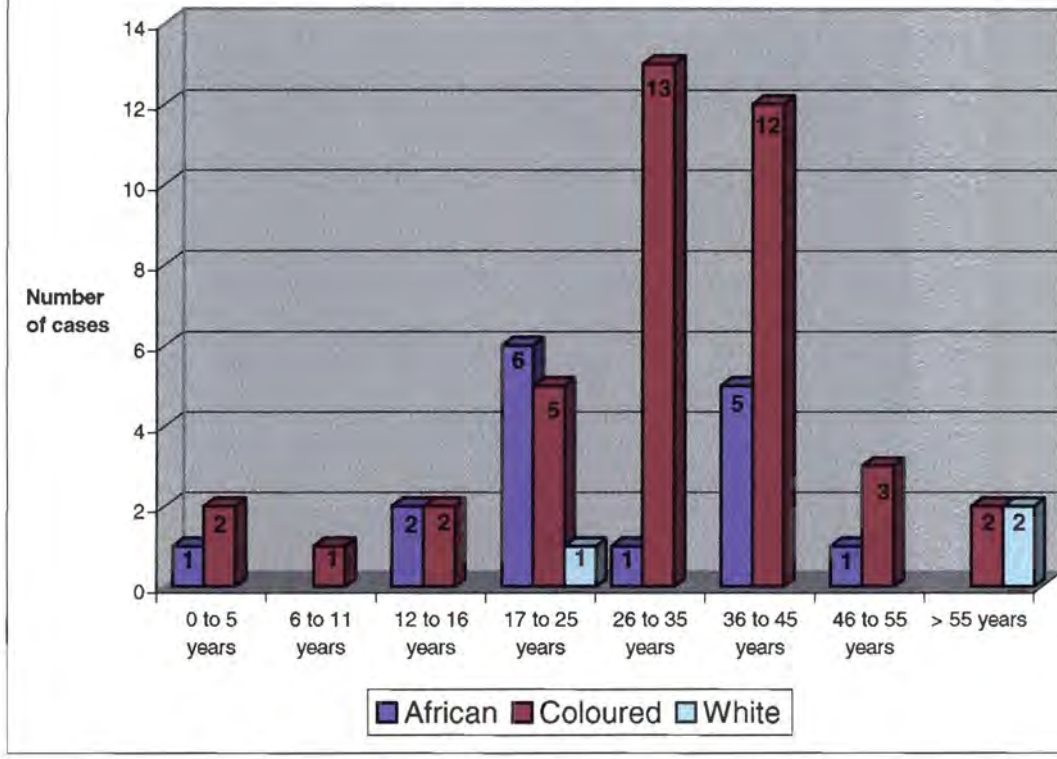
Age Groups	Number (percentage)
0 – 5 years	3 (5.1%)
6 – 11 years	1 (1.7%)
12 – 16 years	4 (6.8%)
17 – 25 years	12 (20.3%)
26 – 35 years	14 (23.7%)
36 – 45 years	17 (28.8%)
46 – 55 years	4 (6.8%)
> 55 years	4 (6.8%)
Total	59 (100%)

TABLE 3.4: SERIES 1: AGE DISTRIBUTION OF VICTIMS

The highest incidence of rape homicides in the present series is amongst coloured females aged 26 to 45 years.

This age by population group distribution is reflected in Figure 3.4.

Figure 3.4: SERIES 1 - Distribution of Victims by Age and Ethnicity (n=59)



Discussion

From these results it is clear that the number of coloured victims is far higher than would be predicted, based on distribution of population groups. Research into violent assaults in Johannesburg has found a similar disproportionate representation of the coloured population. Butchart compared incidence rates of interpersonal violence in low income areas between two US cities, Baltimore and Dallas, and Copenhagen, Denmark, with Johannesburg-Soweto.[12] He hypothesises that the difference between the incidence among coloureds and Africans (both with low socio-economic conditions) can be explained by focussing on socio-political and psychological factors related to colonisation. This hypothesis concludes that levels of interpersonal violence

are partially a function of the degree of political power enjoyed by a group and the impact that this has on the individual's self-esteem and dignity. This suggests that the higher level of interpersonal violence seen among coloureds compared to Africans, despite relatively equal low levels of socio-economic development, may be a reflection of less political empowerment and poor self worth among coloureds.

Another possible explanation for the high incidence of rape homicides among coloured females might be related to the gang subculture and activity that pervades Cape Town. This area needs further research, as anecdotal stories are often heard of particular crimes that have to be committed by gang initiates, rape being one of them.

The youngest patient in this series was 3 years and the oldest 83 years with an average age of 33 years. This confirms the premise that crimes of sexual violence are not related to how attractive and desirable a woman is but revolve around issues of power, anger, dominance and rage.[26, 32-37] More uniquely, in the situation of war, sexual assaults are used to disable the enemy by destroying bonds of family and society.[38]

This is another aspect of sexual assault that thankfully has undergone a complete about face from the opinion held by many, doctors included, 20 to 30 years ago, as is shown in a series from Dade County's Medical Examiner in 1969 which revealed that 2% of the rape survivors were below 10 years, and 3% above 50 years. From this the author concluded "a young woman must be more desirable to a male than a wrinkled, gray haired oldster." [39]

In the present series 7% were less than 10 years and 10% were older than 50 years, which is however different from the sample group of Schiff[39] in that it reflects fatal outcomes of sexual violence.

The pattern of bimodal distribution in the age of rape homicide victims found in Deming's[23] study is not reflected in this Cape Town study. However, the age distribution of the present study mirrors the pattern of homicide in Cape Town

as noted in 1986[40], as well as the age distribution in interpersonal violence victims seen in Johannesburg-Soweto. [12] In a study of female interpersonal violence victims presenting to hospital in Auckland, New Zealand a similar age related trend was seen and these were noted to be generally younger than those presenting with unintentional injury. [41] A study of victims of attempted and homicidal strangulation showed that two thirds of the victims of fatal strangulation were women. The average age was 31 years, most of who were victims of rape homicide. [42]

The aforementioned trend is consistent for the coloured cases in this study, and apart from only one African case in the age group 26 to 35 years it holds for that group. Because the number of white cases in this study is only three, it is not possible to apply any trend. Although one would like to stretch this to comply with the bimodal distribution that Deming et al found, as the population group distribution of his study was 70% white and 30% black (African-American). [23]

3.1.1.4 Alcohol levels

Introduction

A review of nine articles in 1978 revealed the established relationship between violent crime and alcohol. These studies, which looked at alcohol consumption in the victim, the assailant, or in both, found alcohol involved in 30 – 70% of all homicides.[43]

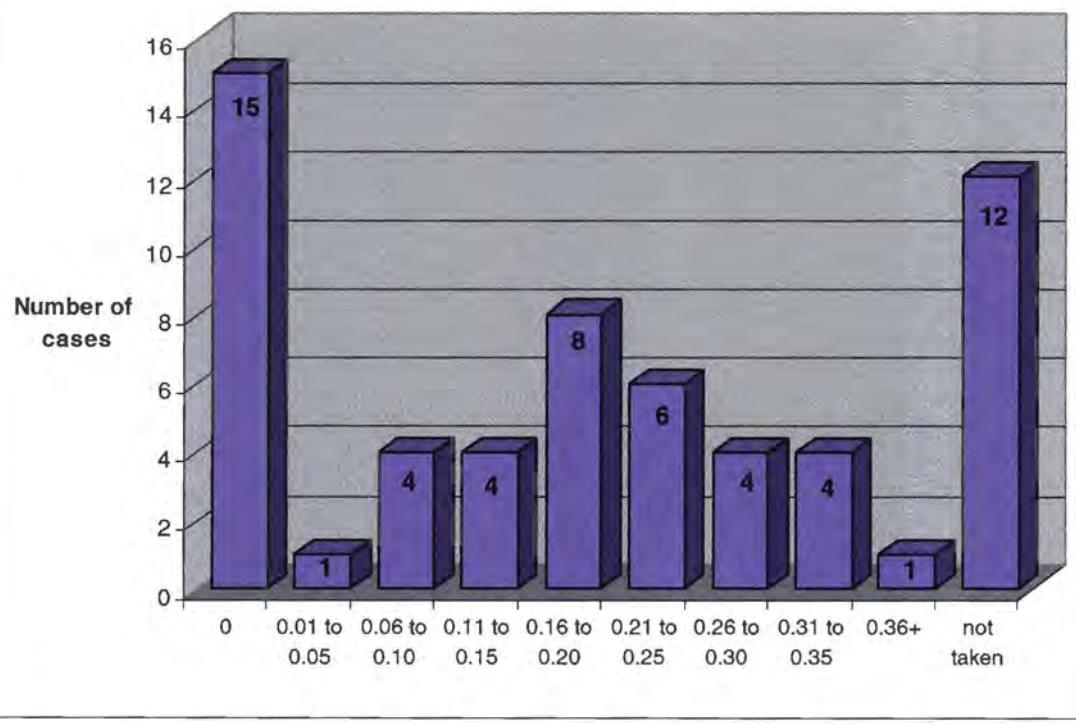
It is difficult to obtain accurate figures for actual blood alcohol concentrations (BAC) in sex offenders, as the instances where the rapist/murderer is caught immediately after the crime and his BAC tested are extremely rare. In this study, no such BAC figures are available. Obviously, the BAC of victims is easy to obtain. It should be relatively easy to obtain the BAC in survivors, with informed consent, while bloods are being drawn for DNA control samples and other serological analyses.

When establishing the drunkenness of offenders however, one usually has to rely on the testimony of the offender himself, the rape survivor, and of any other witnesses. This may be unreliable as the offender may overstate his level of intoxication to aid in his defence.

Results

In the present study, no alcohol was present in 15 cases (25.4%), 32 cases (54.2%) had alcohol in their blood at the time of death, and in 12 cases (20.3%) the BAC was not tested. Blood for BAC was not taken in cases where the decedents were children, where patients had been resuscitated or hospitalised before death or following a prolonged survival period after initial injury. In one case (*Case 29*), the post mortem interval was felt to be too long for an accurate BAC. Of the victims tested for alcohol 68% had a positive BAC. The BAC of the decedents is illustrated in Figure 3.5.

Figure 3.5: SERIES 1 - Alcohol Level in Victims (n=59)



Of the decedents who had last been seen alive in a Shebeen or bar (10 cases), eight had BAC levels of more than 0.10g% with a highest of 0.32g%. The level in one of these cases (*Case 34*) was zero and in one case (*Case 36*) it was not tested.

Discussion

This level of BAC, is significantly higher than the study of fatal sexual assaults from Dade County, where of the victims tested for alcohol in the sample, 40% had a positive BAC.[23]

A study of homicides in Cape Town in 1986 revealed that 62,9% of victims (male and female) had a raised BAC at the time of death.[40] Female homicide victims in Cape Town in 1990/91 were shown to have an elevated BAC in 62,4% [44] of cases. In 1998, 49.0% of cases had an elevated BAC,[45] which is slightly less than the figure for the study group. This lends credence to the argument that if a woman is under the influence of alcohol she is less capable of protecting herself from attack. The range of alcohol concentrations in rape victims correlates closely to that of victims of violence in Cape Town in general.[45] It is highly disturbing that 25.4% of the victims had such high BAC that they would legally be considered incapable to give consent to sexual intercourse. The five victims who were very strongly under the influence to stuporous would have been incapable of any defence efforts.

A literature review reveals that in cases of rape, reports of the assailant having been under the influence range from 0 – 50%. [26]

Studies have shown survivors of rape being under the influence of alcohol to vary from 36% in Auckland from 1982 to 1987 [46], to 21,5% (although a large group of unspecified [78,1%] in this study probably precludes significance) in 1998[41]. In Memphis in a 1992 study[47] 35% of rape survivors, were under the influence and in a Helsinki study from 1978 to 1984 64% of rape survivors were under the influence.[48]

Butchart showed in his study on victims of inter-personal violence in Soweto 48,8% were intoxicated at the time of examination in hospital.[12]

The highest BAC in this series was that of *Case 37* at 0.50g%. The deceased was a 30 year old Coloured woman who was homeless and lived at the Greenpoint Track with her common-law husband and friends. The deceased had allegedly been drinking the whole Sunday and had passed out in the evening. The friends noticed in the early hours of Monday morning that her common-law husband was trying to have intercourse with her and they intervened, in fact, assaulting him in the process. This was done because the woman appeared to be dead and they accused him of murdering her. At autopsy, the findings were inconclusive with congestion of the organs, petechial haemorrhages of the scalp only, contusion in the musculature of the ano-rectal region, and laceration of the anal canal. There was soft stool in the rectum. No other positive findings were noted at autopsy. When the result of the BAC was returned the author had no option but to give the cause of death as acute alcoholic intoxication. Mention was made in an affidavit of the possibility of an asphyxial mechanism in the causation of death and the evidence of forced anal penetration. The common-law husband had been arrested for murder but was released after the inquest Magistrate found no person responsible for the death. See Figure 3.6 for photograph of scene

FIGURE 3.6. SERIES 1: CASE 37, SCENE

NOTE: THE BLOOD SEEN IN THE PICTURE IS THAT OF THE COMMON-LAW HUSBAND.

In the three cases (*Cases 26, 30 and 50*) that were admitted to hospital before their deaths, there is a history from witnesses that the decedents had been drinking when last seen. Interestingly in *Case 49*, still officially unidentified, there is testimony from a witness (a street child) that he saw the decedent before her death in a very drunken state. As the decedent's BAC was zero the investigating officer in this case is investigating the motives of this witness in offering this testimony.

3.1.1.5 Occupation

Results

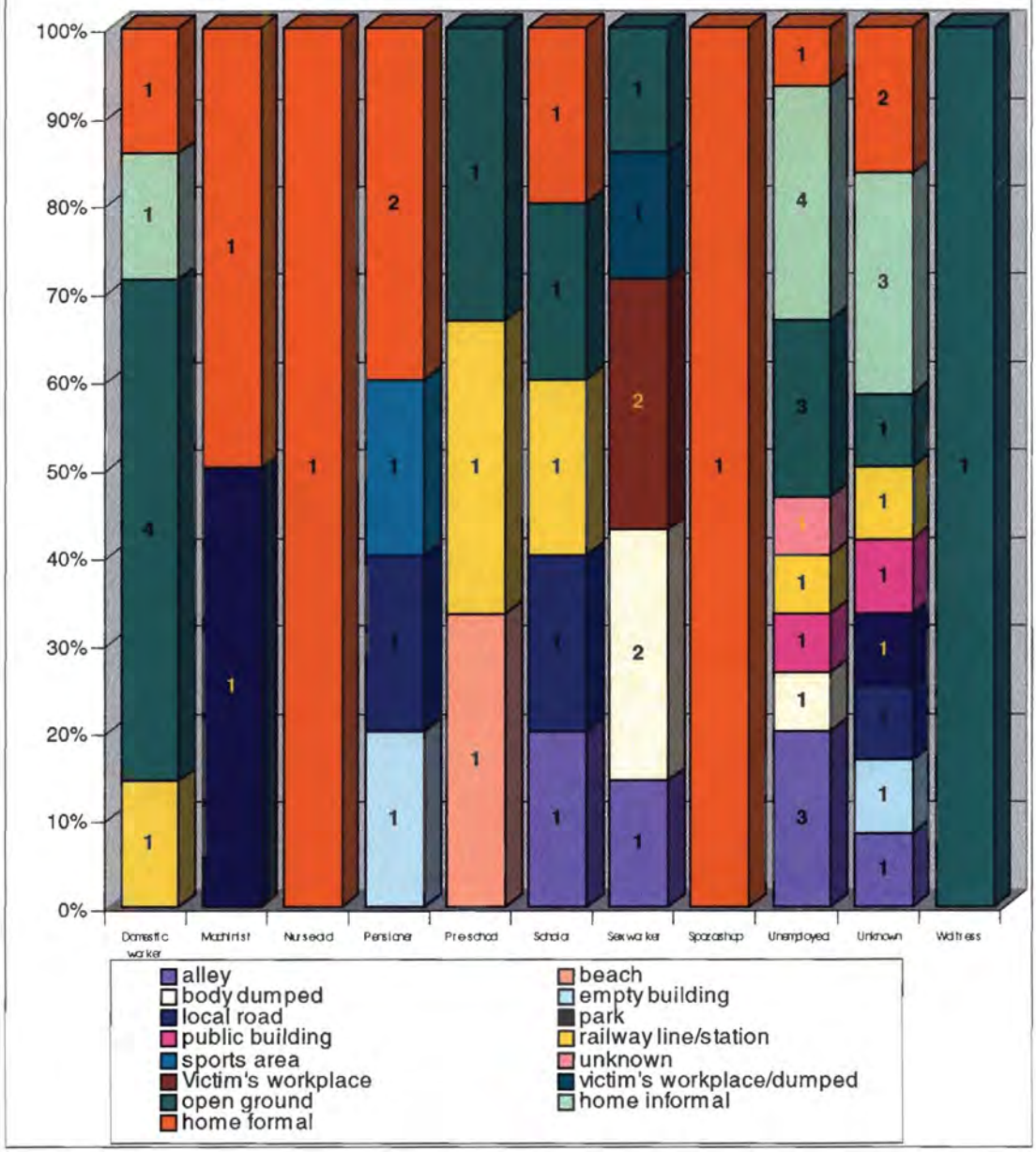
The numbers of cases per occupational category in the present series, as compared to Deming et al, are illustrated in Table 3.5.

Occupation	Cape Town Number of cases (%) n=59	Deming et al[23] (%)
Unemployed	15 (25.4%)	31.7%
Unknown	12 (20.3%)	2.4%
Domestic worker	7 (11.9%)	
Sex worker	7 (11.9%)	4.9%
Scholar	5 (8.5%)	14.6%
Pensioner	5 (8.5%)	
Pre-school	3 (5.1%)	
Machinist	2 (3.4%)	
Nurse Aid	1 (1.7%)	
Spaza shop owner	1 (1.7%)	
Waitress	1 (1.7%)	

TABLE 3.5: SERIES 1 – OCCUPATIONAL CATEGORIES OF VICTIMS

The number of victims who were unemployed is the highest at 25.4% and this is similar to the findings of Deming et al, who found their highest category to be unemployed at 31.7%. It is the author's opinion that the reason for this high incidence is that unemployed women are easy targets. They are either at home, or in the streets, or out looking for work. The distribution of location of the murder by occupation of the victim is illustrated in Figure 3.7.

Figure 3.7: Series 1 - Location of murder by occupation



Discussion

An analysis of the occupation of the decedents to identify any particularly high-risk category is difficult in this series because of the high number of unknown (20.3%).

If one compares the distribution of the decedents' occupation to the locality of where their bodies were found no real trends are noted. With regard to the sex workers in the group the location of their murder is a logical prediction related to their work, as is the case for the pre-school children. Of the seven sex workers in the series, two were murdered in their 'rooms' and two were dumped on the side of the road. One each was murdered in an alley, in open ground and in the assailant's car then thrown out. The children in the series were all enticed away or abducted from a group of friends and they were found murdered in an open field (*Case 3*), on the beach (*Case 33*) and next to a railway line (*Case 52*).

Two studies researching high risk occupational categories for sexual assault in the US found that the highest incidence of rape was among convenience store workers, property management personnel and motel housekeepers.[49, 50] The reasons given for this were that being alone they presented as easy targets. These groups also have a similar reported incidence of work related homicide.

Sex workers constituted 4.9% of Deming et al's[23] sample whereas 11.9% of the present study were sex workers. If one considers the amount of unemployed women in the area of the study compared to the number of female sex workers (approximately 3 000[a]), it is obvious that the highest risk category in the present series is that of sex worker.

[a] Personal communication Glynis Rhodes, SWEAT.

3.1.2 EPIDEMIOLOGY: PERPETRATORS

Information regarding the perpetrators in this series is only known for 43 cases (72.9%). This information is based on interviews with the investigating officers for each case. In 24 cases (40.7%), suspects have been arrested. These suspects have either been tried, convicted, or are awaiting trial. The remaining 32.2% of known cases is based on witness testimony. This testimony includes that of the investigating officers who in most instances are fairly sure of their suspects but do not have enough concrete evidence to enable the public prosecutor to charge them. The remainder is based on testimony of witnesses who saw the alleged assailants running away from the scene of the homicide, or who witnessed the attack or abduction of the victim.

3.1.2.1 Arrest and Conviction

Results

The arrest and conviction status of the perpetrators is illustrated in Table 3.6.

JUDICIAL STATUS OF PERPETRATOR (n=59)			
Unknown 16 (27.1%)			
Known 43 (72.9%)	**Suspected** 19 (32.2%)		
	Arrested 24 (40.7%)	**AwaitingTrial** 15(25.4%)	
		Deceased 1 (1.7%)	
		Withdrawn 2 (3.4%)	
		Completed 6 (10.2%)	**Life** 1
			30 Years 1
			12 Years 1
			10 Years 2
			7 Years 1

TABLE 3.6: SERIES1 – STATUS OF PERPETRATORS

Discussion

The two cases in which the charges were withdrawn are *Cases 22 and 37*. *Case 22:* a 23 year old coloured woman, was among a group of friends on a Saturday night looking for her boyfriend. The group separated and she was last seen in the company of four African males, her friends. She was found with multiple stab wounds in the backyard of an informal dwelling. The investigating officer arrested the four friends and is convinced of their guilt, however the charges against them were withdrawn due to lack of evidence. *Case 37* has been previously described (page 31).

The case in which the accused is deceased is *Case 12*. The decedent a 28 coloured woman was assaulted by her common-law husband at home with a lead pipe. She sustained multiple injuries (see Figure 3.8), including a perineal laceration. The post-mortem swab for spermatozoa was positive.

FIGURE 3.8A: SERIES 1 – CASE 12, INJURIES SUSTAINED

FIGURE 3.8B: SERIES 1 – CASE 12, INJURIES SUSTAINED

No comparative study was found to compare arrests, conviction rates and sentencing for rape homicide cases. From the present study, it is apparent that those suspects who have been to trial have been convicted for the rape homicide (100% conviction rate), and as yet there are no cases where a verdict of not guilty was handed down. From the author's experience guilty verdicts are handed down in many more cases of murder than of rape, and the sentences are generally more severe. Several studies have tried to link medical evidence firstly with conviction rates and secondly to sentences given.[48, 51-53] The results in these studies were equivocal, but there were no instances of a break in the chain of evidence, nor of any case being dismissed on grounds of lack of medical evidence.[a]

Cartwright et al found a more positive link to the medical evidence and judicial outcome in their study group of 440 cases of rape survivors.[54] They took

[a] Medical evidence is taken to mean documentation of injuries and collection of vaginal swabs/slides for identification of spermatozoa.

genital injury as objective evidence of forced intercourse (non compliance) and positive spermatozoa samples as objective evidence of penetration. In their results of 75 cases with both genital injury and sperm found, 60 assailants were successfully convicted.

According to the State Advocate the convictions and sentances of life imprisonment (*Case 3*) and of 12 years (*Case 26*), from the present study, were largely as a result of the medical testimony.

Conviction rates for rape cases in SA in 1996 were 18.75% and for the Western Cape 23.2%9, second only to Mpumalanga. It would be interesting to see if this relatively high conviction rate is as a result of the special initiative of the Director of Prosecutions' office: Western Cape, which established the Wynberg Sexual Offences court as a pilot project in 1993.[55] This court gives special attention to rape survivors, the prosecutors are generally female and have undergone specialised training to help them deal with sexual offences. A dedicated social worker is also employed to assist rape survivors.

3.1.2.2 Relationship of Perpetrator to Victim

In the cases where the perpetrator was known it was established what type of relationship existed, if any, between the victim and her murderer. In this series, all assailants in the known category were men. Various categories were described to tabulate this data. The category of intimate partner includes husbands, boyfriends, lovers, and any male person with whom the victim had a current intimate relationship. A friend was taken to be someone with whom the victim was regularly acquainted and whose company she frequented, whereas an acquaintance was someone she knew on a social basis but through the friendship of others e.g. a 'friend of a friend'. The category 'knows by sight' is taken by its literal meaning, for example someone she would have seen in her street on more than one occasion. 'Client' and 'pimp' have been included to describe the cases of murdered sex workers within this series.

Results

The relationships are shown in Table 3.7.

Relationship	Number of cases (%) n=59
Stranger	10 (16.9%)
Intimate partner	10 (16.9%)
Ex-intimate partner	1 (1.7%)
Family member	2 (3.4%)
Friend	2 (3.4%)
Acquaintance	4 (6.8%)
Knows by sight	9 (15.3%)
Employee	1 (1.7%)
Client	3 (5.1%)
Pimp	1 (1.7%)
Not stated	16 (27.1%)

TABLE 3.7: SERIES 1 – RELATIONSHIP OF PERPETRATORS TO VICTIMS

Discussion

If one looks at the categories of known and unknown, 56% of the victims in this study had an existing relationship of some kind with their murderer. This differs quite significantly from a previous study in which only 17% of the victims knew their assailants.[23] In Butchart's Johannesburg-Soweto study he found that 31.7% of female victims were attacked by strangers.[12]

The 'not stated' category is unfortunately high at 27.1%. These are the cases in which the investigating officer has neither a suspect nor effected an arrest.

3.1.2.3 Ethnic Distribution

This is again based on actual arrests and witness testimony from the scene.

Results

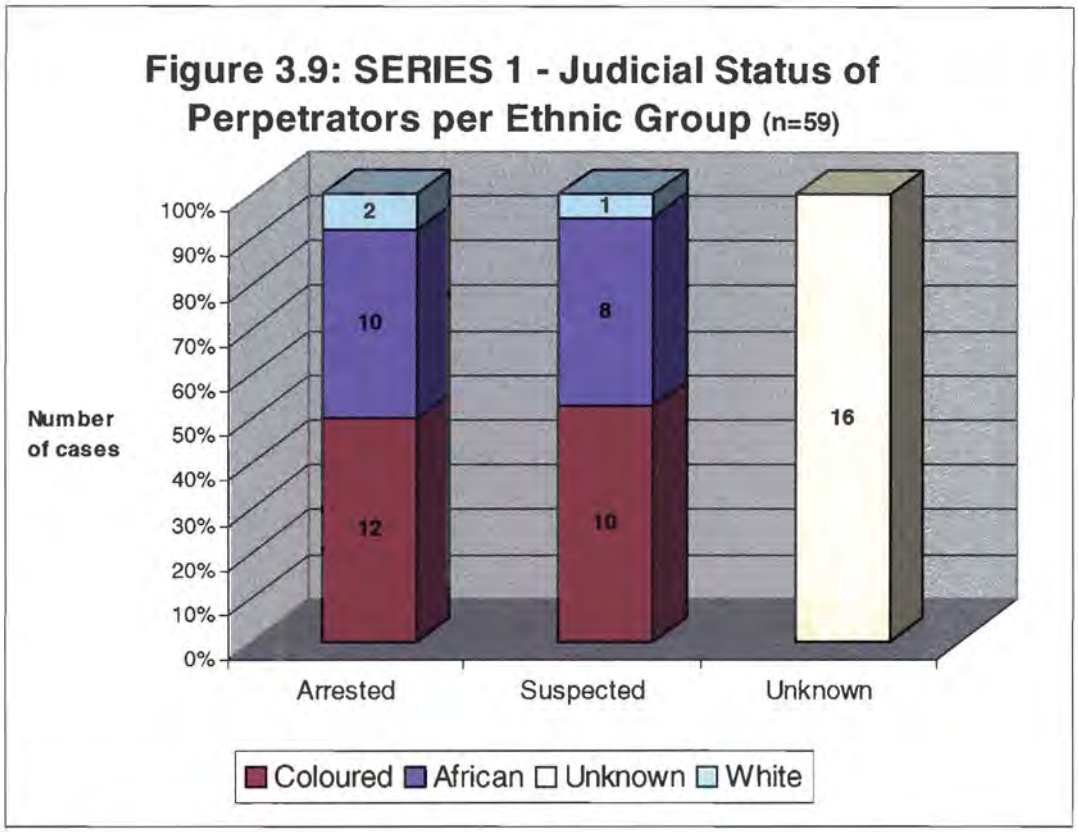
The distribution of the perpetrators as per population group is reflected in Table 3.8. The total population served by SRML has been calculated as for Table 3.3.

	Number and percentage of cases	Number and percentage of population[31]
African	18 (31%)	259, 291 (34.9%)
Coloured	22 (37%)	320,018 (43%)
White	3 (5%)	119,363 (16%)
Unknown	16 (27%)	

Note: Total female population for the area in question is 744,041.[31] The remainder of the total female population is made up of Indian/Asian and Unspecified/Other.

TABLE 3.8: SERIES 1 – ETHNIC DISTRIBUTION OF PERPETRATORS

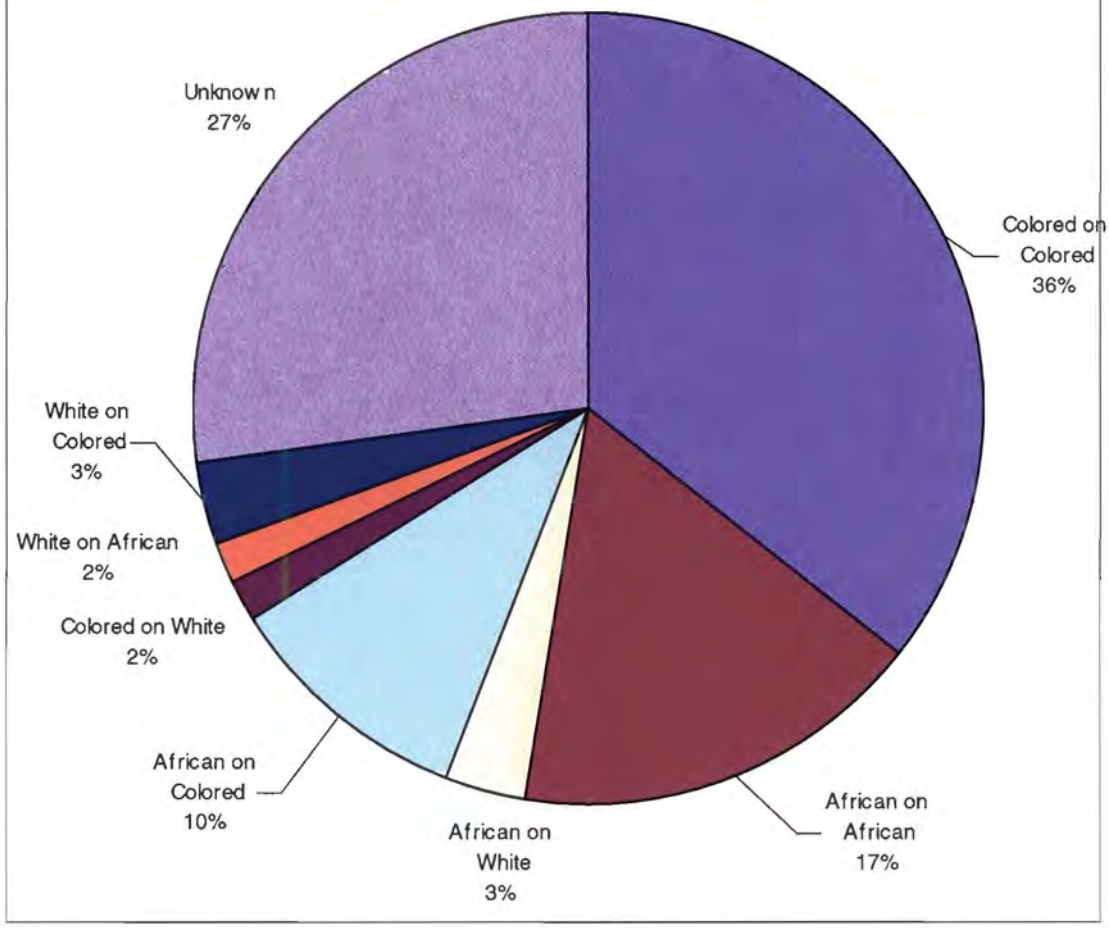
A further analysis of perpetrators by their arrest status and population group is shown in Figure 3.9.



Discussion

It is difficult to draw any conclusions from these figures because of the large unknown group. If, however, one looks at the cases where the population group of the perpetrator is known and analyses the inter-ethnic distribution (Figure 3.10) of cases the results are similar to those found in Series 2, and in the literature.[39, 46,56]

Figure 3.10: SERIES 1 - Inter-Ethnic distribution of perpetrators on victims



3.1.2.4 Number of Perpetrators

Results

The majority of perpetrators (55.9%) in this series acted singularly, and in 17%, there was more than one assailant involved in the attack. This differs from Series 2 where 33.7% of the cases involved two or more assailants.

However there is a significant number of cases in Series 1 that are unknown (27,1%) whereas only 1.2% of cases in Series 2 are unknown. The breakdown of number of perpetrators per case is illustrated in Table 3.9.

Perpetrators	Number of cases (%) n=59
One	33 (55.9%)
Two	6 (10.2%)
Three	2 (3.4%)
Four	1 (1.7%)
Five	1 (1.7%)
Unknown	16 (27.1%)

TABLE 3.9: SERIES 1 – NUMBER OF PERPETRATORS PER CASE

Discussion

In the study of Deming et al, the finding is also that the majority of perpetrators acted singularly, with only 7% of known cases consisting of two perpetrators.[23]

3.1.3 EPIDEMIOLOGY: CRIME

The demographics of rape homicides for the 2½-year period were analysed as an attempt to identify high-risk periods during which women are susceptible to fatal sexual assaults. It was predicted that this would be highest in summer months, at the weekends and during the evening/ early morning hours.

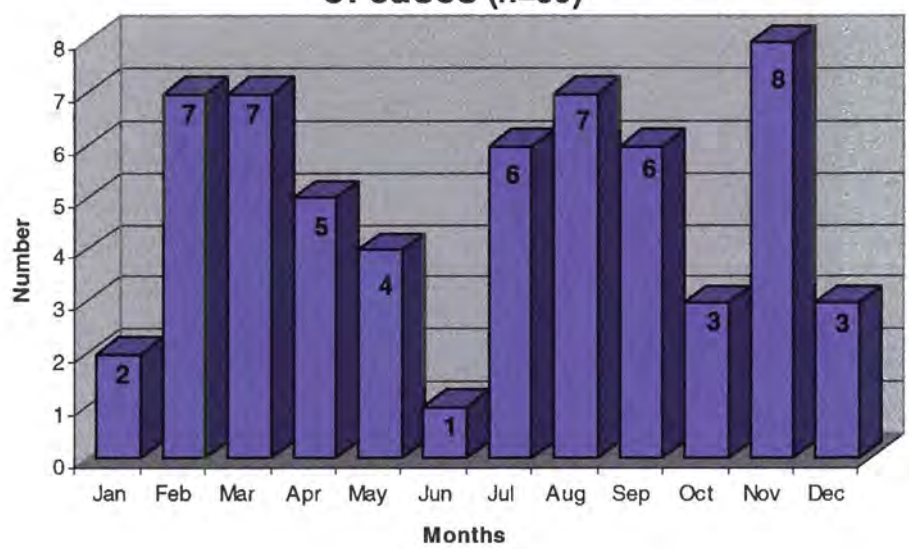
The study by Deming et al did not look at this characteristic for their series of fatal sexual assaults over a 22-year period.[23]

3.1.3.1 Monthly Distribution

Results

The monthly distribution of the rape homicide cases which is presented in Figure 3.11 shows no discernible seasonal pattern, contrary to the expected outcome. In fact, there are almost equal numbers of cases in February, March, July, August and September, with the highest number of cases in November (13.6%).

Figure 3.11: SERIES 1 - Monthly distribution of cases (n=59)



Discussion

This finding contrasts sharply with the seasonal distribution of rapes found in Series 2.

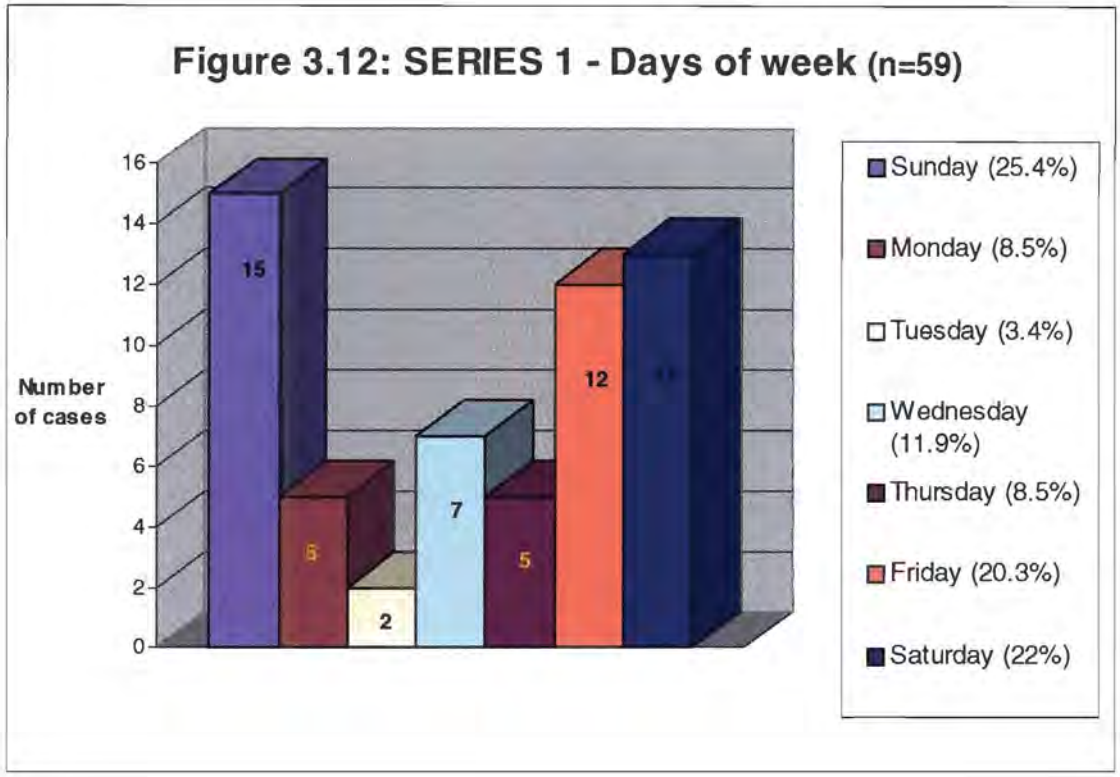
In a study in the US concerning the effect of the season on the incidence of violent crimes, Michael et al[57] found that there was a virtual absence of seasonal changes in the numbers of murders. Rape and assaults however showed similar season related patterns with an increase in the warmer summer months. This led the authors to hypothesise that human violence is influenced by "exteroceptive environmental factors", which is an animal model and has proven that various higher non-human primates respond to environmental influences such as temperature, humidity and photoperiod. They analysed the violent crimes of rape, assault, robbery and murder over a two-year consecutive period from 16 different states using crime statistics provided by the FBI Uniform Crime Reports. The results showed that rape and assault were significantly associated with temperature but not to photoperiod. There was no association between temperature or photoperiod and murder or robbery.

The present series also appears to adhere to this hypothesised model. There is no apparent seasonal distribution reflected in the number of rape homicides. The only case of the present series that occurred in June was in 1997 from Khayelitsha. This may be related to rainfall, as Cape Town has rain in the winter months. It is postulated that heavy rainfall in combination with cold weather would make women less of a target, as they would tend to remain at home, or indoors. Additionally, potential assailants may also be less inclined to wander the streets in search of a victim.

3.1.3.2 Day of Week

Results

The results of the present study are illustrated in Figure 3.12.



Discussion

Friday (20.3%), Saturday (22%), and Sunday (25.4%) were as expected the days of the week with the highest incidence of rape homicide. This result is similar to that described in Butchart's Johannesburg-Soweto study[12] on interpersonal violence, and to the figures obtained from Auckland, New Zealand on unintentional injury to females.[41]

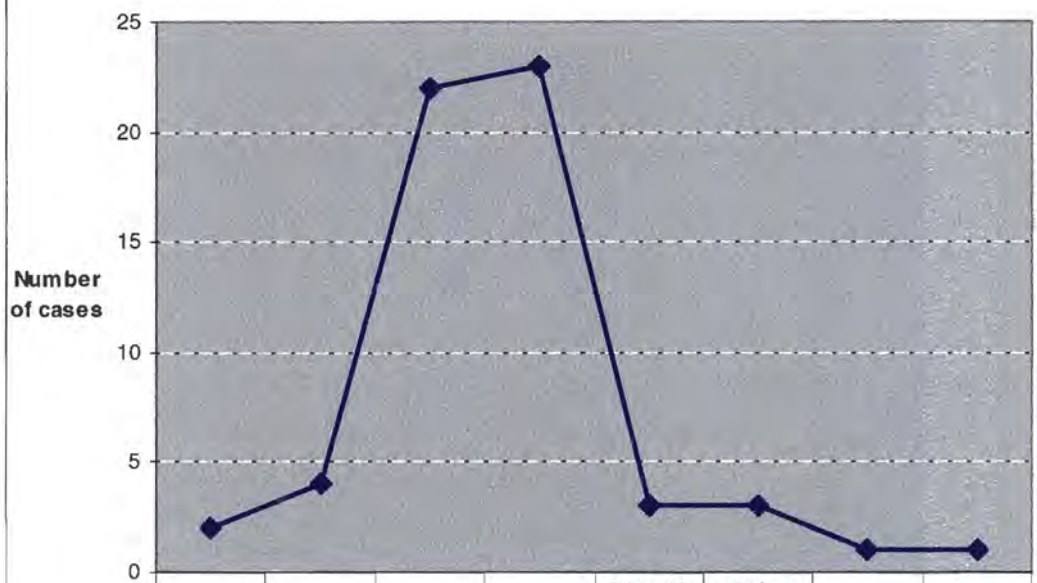
It is obvious that women are more of a target over the weekend. It is usually these days/ nights that are spent socialising and often time is spent travelling from one venue to another, generally on foot. It is also associated with alcohol consumption, which leads to a woman becoming an easier target as she may drop her usual defences and be less guarded. If under the influence of alcohol, as a significant number of this study group were, then a women has less ability to fight any potential assailant

3.1.3.3 Time of Day

Results

The 24-hour distribution of the cases is illustrated in Figure 3.13.

Figure 3.13: SERIES 1 - 24 hour distribution of cases (n=59)



	06h00 to 12h00	12h00 to 18h00	18h00 to 24h00	00h00 to 06h00	24 to 48 hrs prior to	> 2 days prior to discovery	18h00 to 06h00	not known
Series1	2	4	22	23	3	3	1	1

Discussion

Similarly the time of day/night when the rape homicides occurred are as predicted with 78% of the incidents occurring between the hours of 18h00 to 06h00. This is in concordance with studies on non-fatal assaults on females.[12, 41]

This time range probably represents the periods when women are travelling to or from various venues. Whether it be work, the city, or a social occasion.

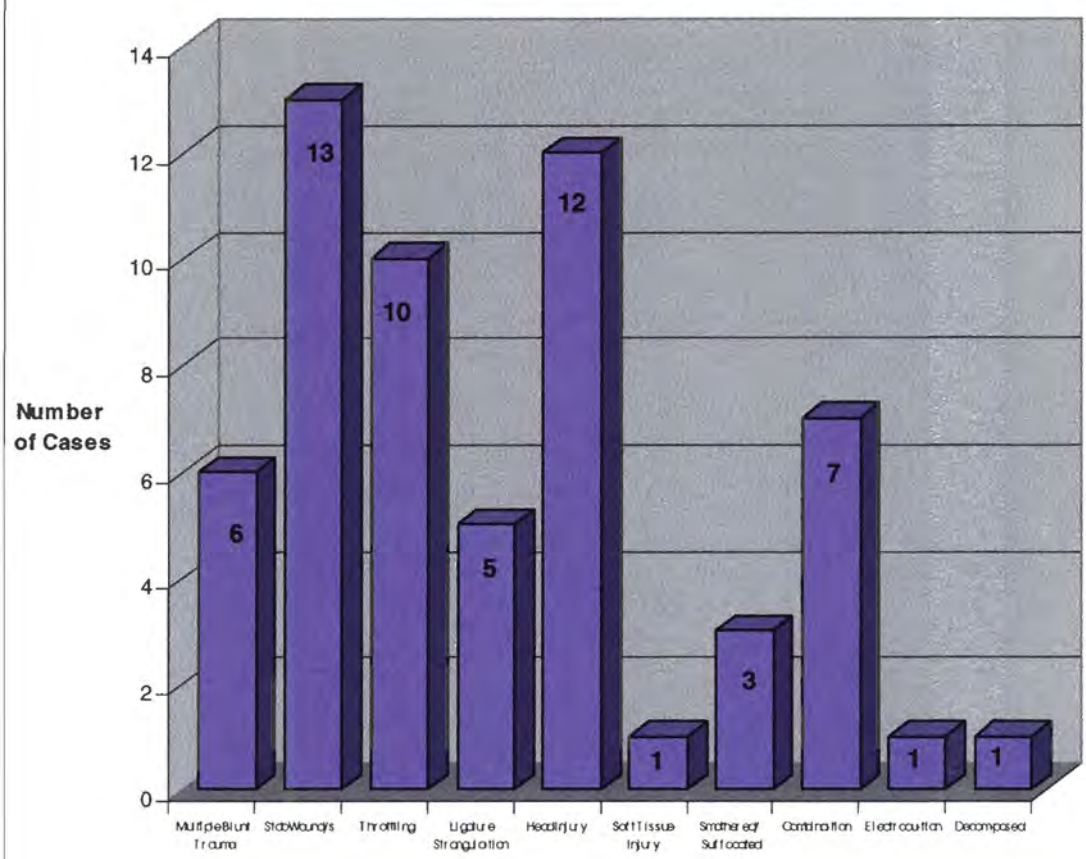
3.1.3.4 Cause of Death

The "classic" cause of deaths in rape homicide cases is strangulation, whether it is manual strangulation, also referred to as throttling, or ligature strangulation.

Results

In the present series 16.9% of victims died of manual strangulation and 8.5% due to ligature strangulation. 69.5% of victims demonstrated injuries to the internal neck structures on bloodless dissection and 27.1% had subconjunctival petechial haemorrhages, strongly suggesting that strangulation played a part during the attack. Figure 3.14 illustrates the causes of death in the present series.

Figure 3.14: SERIES1 - Cause of Death (n=59)



The total number of cases in the present series that include mechanical asphyxiation as a mechanism of death is 30.5%. If the cases including mechanical asphyxiation as a cause of death within the combination group (6 out of 7) are added this total increases to 40.7%. The additional cases included in the category mechanical asphyxiation are those due to smothering and suffocation.

Discussion

In a study on the types of injuries sustained during strangulation[42], it was found that 30% of surviving victims were rape survivors and 31% of the murder victims died in a rape homicide. In the series of fatal sexual assaults studied by Deming et al[23], 48.7% of the victims were strangled, either alone or in conjunction with another mechanism of death. In a case report of a fatal sexual assault described in the literature,[58] the cause of death is given as strangulation.

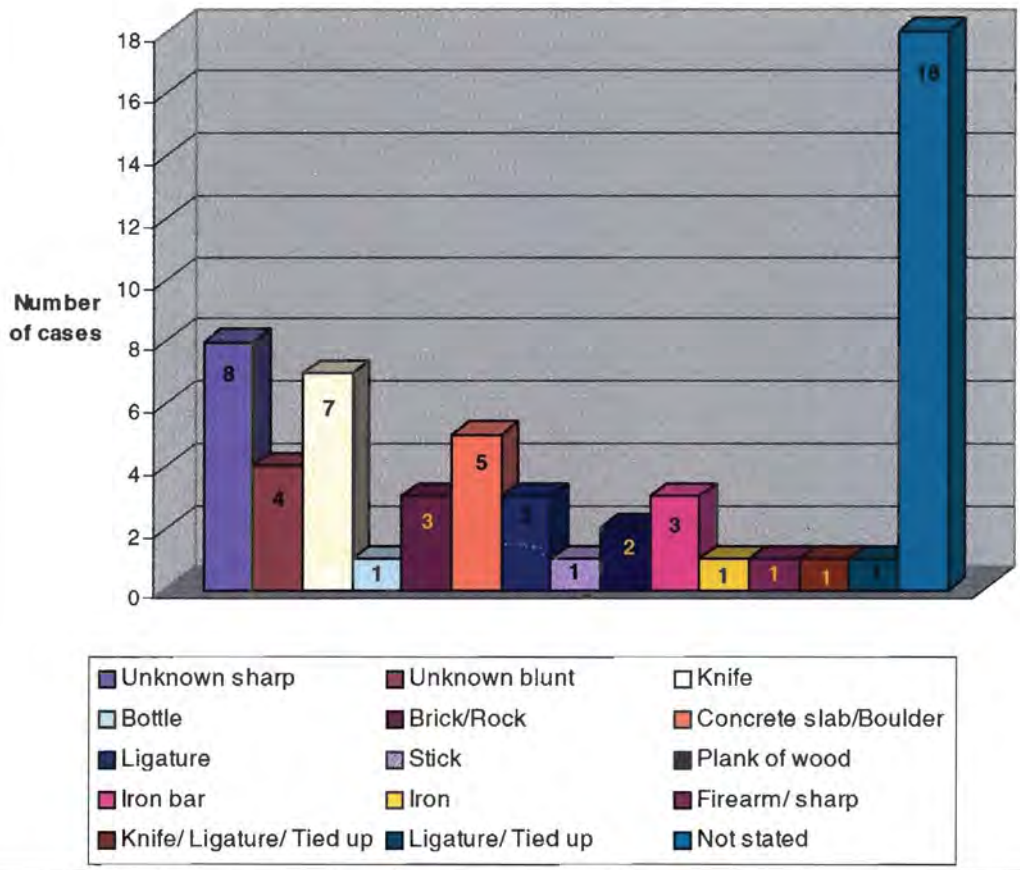
The findings from the present study reinforce the 'classic' mechanism of death in rape homicides as strangulation, which could be expanded to mechanical asphyxiation. It seems that the neck, and the mouth, are the targets of attack in rape homicide.

In a study on homicide in Cape Town[40] the total number of strangulation cases for the first 6 months of 1986 was 4 (0.8%), where females constituted only 10.7% of the total homicide cases. There was, in addition, one case of asphyxiation during the act of sodomy in a child. The causes of death in that study are as follows: incised wounds 60.0%, blunt object injury 21.8%, gunshots 18.0%, burning 5.3%, and other 1.8%. [40] Recent statistics from the SRML show the following distribution for female homicide cases: gunshot wounds 41.5%, incised wounds 29.8%, blunt trauma 18.1%, and the remainder as other. [59]

From this, it is apparent that in Cape Town cases of female homicide, which have mechanical asphyxiation as a mechanism of death, should be regarded with a high suspicion as being as a result of a fatal sexual attack.

An aspect of concern for the author was the amount of force used and the level of violence apparent in the cases. It was also the author's impression that this level of violence increased during the study period. Most of the cases presented depicted complete over-kill, with evidence of more than one mechanism of injury, although this is not reflected in Figure 3.14, but is noted under the discussion of injuries *infra*. The amount of violence used in some of the cases can be somewhat conveyed by the weapons which were used in the murders. These are shown in Figure 3.15.

Figure 3. 15: SERIES 1 - Weapons used (n=59)



The actual weapons are stated where known, either from confessions made by the suspects or by having been found on the scene. The group 'unknown blunt' and 'unknown sharp' have been inferred from the injuries found at autopsy.

In *Case 2* the decedents skull and facial bones were completely comminuted with the head having a crushed appearance (Figure 3.16), the concrete slab thrown onto her head was found at the scene.

FIGURE 3.16: SERIES 1 - CASE 2, SCENE OF CRIME, CONCRETE BLOCK.

At the scene of *Case 25* an iron, the handle of which was blood stained, was found (Figure 3.17). The decedent's boyfriend who has been arrested, tried and convicted for the murder, however escaped from custody before being sentenced. In addition, he had two previous convictions for assault.

FIGURE 3.17: SERIES 1 - CASE 25, WEAPON FOUND AT SCENE OF CRIME.

Case 49: a 35 year old coloured female, still unidentified, died of multiple injuries following an assault with numerous concrete slabs (Figure 3.18) and broken bottles, one of which was inserted in her vagina and was still present at autopsy. In addition, an avocado pip was found within the rectum.

FIGURE 3.18: SERIES 1 - CASE 49, CONCRETE BLOCKS AT SCENE OF CRIME.

Case 55: a 24-year coloured female who was found naked with a piece of pavement kerbstone on her head (Figure 3.19).

FIGURE 3.19: SERIES 1 - CASE 55, PAVEMENT KERBSTONE USED AS WEAPON.

3.1.3.5 Status of Clothing

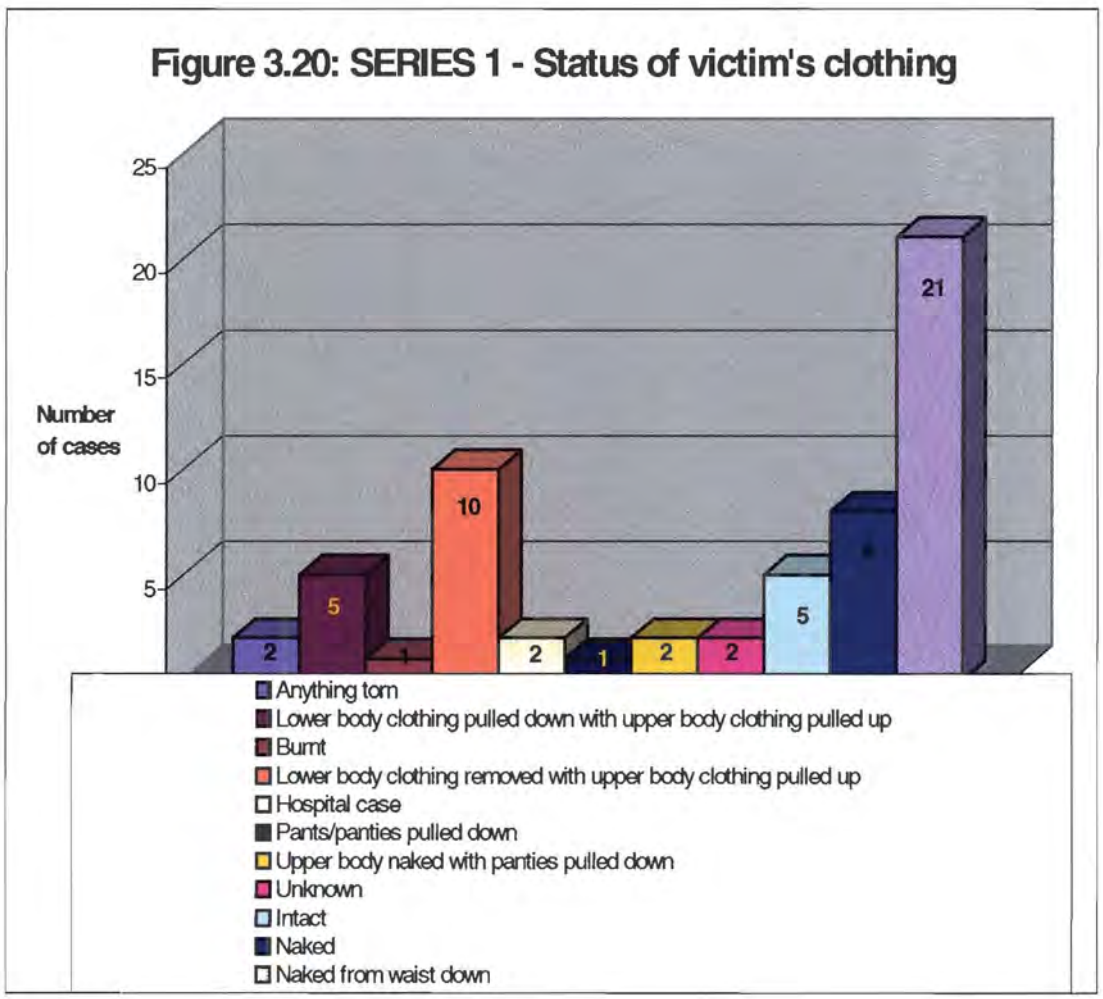
Introduction

A request was made to the commanding officer of the SRML to ensure that the clothing of victims of rape homicide cases was left intact by the mortuary attendants and not removed before autopsy. In cases where this did not happen in this series the investigating officer was asked as to the state of the decedents clothing at the scene.

Results

The findings concerning the decedents clothing are illustrated in Figure 3.20. In one of the three hospital cases in this study, the hospital notes described the state of the patient's clothing on admission.

Figure 3.20: SERIES 1 - Status of victim's clothing



A comparison between the present study and that of Deming et al[23] is presented in Table 3.10.

Clothing	Present study % of cases	Deming et al[23] % of cases
Intact	8.5	2.4
Naked	13.6	34.1
Partially removed or damaged	71.1	53.7
Not known	6.8	9.8

TABLE 3.10: SERIES 1 – STATUS OF VICTIM'S CLOTHING.

Discussion

Usually in cases of sex related murders the nature of the crime is brought to the attention of the investigating officer at the scene of the crime. It is here that the first indications of any sexual assault will be noted by the state of the victim's clothing. This is very often the only indication before the post-mortem examination that a sexual assault has indeed occurred. If the pathologist is not vigilant in his/ her thorough examination of the genitalia and anal region the nature of the crime may go undetected. It may in fact be prudent for most pathologists to suspect a sexual assault in all cases of female homicide. Indeed in the present series a number of the cases were not accompanied by a history of sexual assault from the investigating officer, and this information was conveyed to them upon completion of the autopsy.

It is noted that if the investigating officer and pathologist alike do not have a high level of suspicion in cases of female homicide much valuable forensic evidence will be lost. These are very strong reasons to advocate why the pathologist should be called to the scene of the crime of female homicides where any doubt exists as to the nature of the crime. Again, for these reasons it is imperative for the investigating officer to be present at the autopsy.

3.2 SERIES 2: RAPE SURVIVORS

3.2.1 EPIDEMIOLOGY: SURVIVORS

3.2.1.1 Incidence

Introduction

One only has to read the daily newspapers to be aware that the crime of rape is on the increase, and it seems out of proportion with the rate of population increase. One would like to think that this increase is due to an increased awareness of the crime amongst previously unempowered women who add to the rate of reporting. Alternatively, that it is due to a more user-friendly police and judicial system that make it easier for women to report the crime and not to suffer the secondary victimisation that usually accompanies this procedure. However, it seems that the reality is an increase in the incidence of rape.

Results

During 1992 the number of women seen at the MLC in Johannesburg who had reported being raped was 584 out of a total of 24 812[7] reported nationally, an incidence of 165 per 100 000 females for Johannesburg.[60]

Discussion

By comparison in the US in 1990 there were 102 555 reported rape cases with an incidence of 80 per 100 000 females, which had shown a 10% increase from the 1986 rate.[37] Copenhagen reported an incidence of 10 per 100 000 inhabitants, and Paris 20 per 100 000 inhabitants in the early eighties.[51] During the period 1978 to 1981 the mean incidence of rape in Helsinki was 2.7 per 100 000, with an average of 1.2 per 100 000 for the whole of Finland.[48]

Lifetime rates of rape among specific groups of women were reported in 1987 as 33% in psychiatric outpatients, 20% for psychiatric inpatients, and among college students as between 55 to 84% in the US.[61]

Following the release of the results of the 1996 population census for SA the incidence of rape for the country in 1996 was 240 per 100 000 females, and for the Western Cape 311 per 100 000 females.[9, 31]

It is apparent that the Western Cape has an enormous problem concerning violence against women, and with regard to rape it has an incidence of one and a third times the National average. Assuming the population of women in large European cities to be approximately 50%, the Western Cape's incidence of rape is approximately forty times greater, and that is only the reported cases.

3.2.1.2 Geographic Distribution

Introduction

The cases seen at the MLC in 1992 were largely from the two Magisterial Districts that the clinic serves i.e. Johannesburg (SAPS District 39) and Johannesburg North (SAPS District 66). Cases from outside the jurisdiction of the clinic were also seen, as the MLC made it policy not to turn anyone away. These cases arose in instances where the rape survivor had been attacked whilst travelling and had reported the case on returning home, and in instances where the assigned doctor in another area was unavailable. Due to widespread media coverage, it became known among the police that our MLC provided an almost immediate service, and if necessary, there was always an experienced senior doctor available.

Results

The distribution of cases is presented in Table 3.11.

District	Number of cases	Percentage
Johannesburg	362	34.4
Johannesburg North	201	62.0
Other	21	3.6

TABLE 3.11: SERIES 2 – DISTRIBUTION OF CASES AS PER SAPS DISTRICT

Discussion

The individual station with the highest number of cases was Hillbrow (23.8%) which falls under the Johannesburg North area, followed by John Vorster Square (19.0%) in the Johannesburg district. These two SAPS stations serve the populace of the inner city i.e. Hillbrow, Braamfontein and central Johannesburg. It is the author's opinion that the high number of cases in these areas is related to its dense population, with influx of people coming to the city to look for employment, and the subsequent high level of unemployment in the city. These factors are compounded by the relatively large criminal element in the inner city, the fragmentation of the family unit, and large numbers of teenagers and young twenty year olds frequenting various entertainment venues in the city. Reported rape incidences for large cities in the US are generally higher the overall incidence for the country.[47]

Rape in the suburbs of Johannesburg is far less common. The commonest *modus operandi* in these cases was rape in conjunction with housebreaking and theft, whereas in the inner city the crime was committed independent of any other.

3.2.1.3 Age Distribution

Results

The age distribution of the rape survivors is presented in Table 3.12. The majority of cases fall in the age category 17 to 25 years (52.6%), with 12.2% of survivors 16 years or younger. At the MLC serving the Soweto region 75% of the rape survivors were 16 years or younger for the same period.

Age (years)	Number of cases (n=584)	Percentage
0 – 5	4	0.7
6 – 11	8	1.4
12 – 16	59	10.1
17 – 25	307	52.6
26 – 35	133	22.8
36 – 45	51	8.7
46 – 55	16	2.7
> 55	6	1.0

TABLE 3.12: SERIES 2 – AGE DISTRIBUTION OF SURVIVORS

Discussion

It is felt, similarly, that the climate and culture of the inner city is responsible largely for the distribution of age in this series, contributing to the 75.4% of rapes occurring in the 17 to 35 year category.

Additionally a large proportion of the rapes in this series were committed on women travelling to and from work, with abduction forming part of the *modus operandi*, and threats of physical harm, and in an increasing number at gun point. The rapes committed on girls' aged 16 years and younger were more often perpetrated by men known to them than in the older women. In the

cases of stranger rape on the younger girls they were usually enticed or abducted, in some cases for days, and held as "sex-slaves".

The high incidence of younger rape survivors is a worldwide phenomenon as is illustrated from the figures noted in the literature. A review of cases examined in Copenhagen over a ten year period showed a preponderance of cases in the 10 to 14 year age group (32.5%), with 83.0% of survivors younger than 20 years.[62] A two year review period in Singapore revealed 76.5% of cases younger than 16 years, (although in this group 17.4% consented to intercourse with their boyfriends), and 21.0% in the age group 16 to 25 years.[63] A study from Belfast, Northern Ireland, shows a mean age of their sample group to be 21.8 years with a range from16 to 47 years.[64] Rape survivors from Toronto, Canada showed a mean age of 26,78 years with 49.8% of the survivors in the 16 to 25 year category.[65] In the US the prevalence of rape survivors younger than 26 years ranges from 50% to 78.8%.[2, 25, 66-68]

The rape survivors from the suburbs of Johannesburg account for most of the 12.4% of women over the age of 35 years in this series.

3.2.1.4 Ethnic Distribution of Survivors

Results

Population group	Number of cases	Percentage
African	416	71.2
White	94	16.1
Coloured	65	11.1
Asian	9	1.6

TABLE 3.13: SERIES 2 – ETHNIC DISTRIBUTION OF RAPE SURVIVORS.

The prevalence of rape amongst various different ethnic groups usually reflects the ethnic breakdown of the population groups for the area under review. This was certainly the case in Johannesburg in 1992 (Table 3.13), with 71.2% African survivors.

Discussion

The 1991 population census recorded Johannesburg as having 194 965 white women and 67 204 African women, [60] making the prevalence of rape amongst African women 4½ times higher than that for white women. It seems that there is a combination of factors contributing to this disproportionate level of rape among African women.

The official population statistics may not reflect the true population of Johannesburg owing to various logistic problems. The population in 1992 of Hillbrow, Johannesburg and its immediate surrounds has increased since the 1991 census, and the impression is that this applies to the African population more than any other group. The level of violence in the country is generally higher in the African population group[12] and is therefore reflected in the rape statistics.

There appears to be cultural differences in respect of social communication and levels of trust between African people *vis-à-vis* other population groups. African women more readily accept lifts from strangers and talk to strangers on the street; this factor is reflected in the high incidence of stranger rape (80.1%) in this series. It may be due, in part, to a lower level of awareness or knowledge concerning the dangers of this type of behaviour in the city environment. Additionally the amount of time spent commuting via taxis, trains and walking on the streets, often alone and in the hours of darkness, especially in the city centre, is much higher amongst African women than any other group. This behaviour is also a reflection of the process of socialisation

of women who are encouraged to be passive and not to acknowledge sexual elements in heterosexual social encounters. Men on the other hand, are expected to take the initiative and consciously, even overtly, exploit any sexual elements in such encounters. Lazarus[19] gives a good example of instances where women may be seen to be infringing the expectation that women be subject to the protection of men. He states that a woman commuting to or from work may perceive a query about the time of day as just that. The male questioner however will perceive both the question and the reply as a prelude to a sexual encounter. If the woman's subsequent behaviour fails to conform to his he may feel 'entitled' to force sexual intercourse, in conformity with active-passive beliefs about men and women. This pattern of interaction was evidenced repeatedly among the African rape survivors in the present series, and in the author's entire experience at the MLC, especially concerning the stranger rapes in the city centre.

The very small percentage of Asian survivors seen (1.6%), is also slightly disproportionate to the total population of Johannesburg as compared to whites. The Asian population being one seventh of the white population with a ten times lower incidence of rape. This may be due to cultural/ religious differences, where the family unit is more strongly enforced or due to the relatively early age of marriage amongst Asian women, and a more restrictive moral code that is followed. From interviews with rape survivors, it seems that Asian women are less likely to report a rape incident for these same reasons.

3.2.2 EPIDEMIOLOGY: PERPETRATORS

3.2.2.1 Ethnic distribution

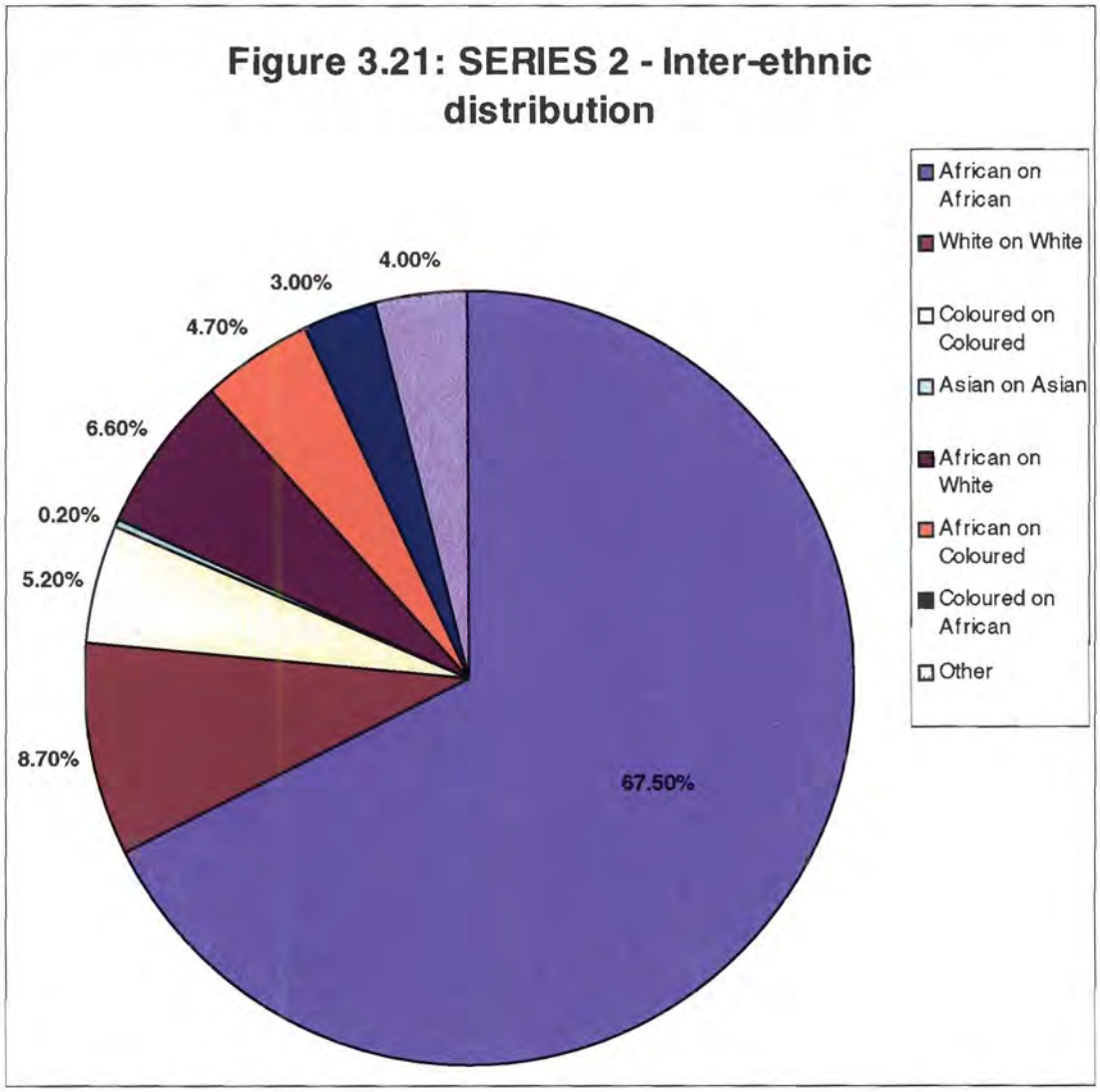
Results

This is presented in Table 3.14. A small proportion of the cases was unknown, from instances where the rape survivor did not know the ethnic group of her assailant.

Population group	Number of cases	Percentage
African	455	77.9
White	57	9.7
Coloured	53	9.1
Asian	8	1.4
Unknown	11	1.9

TABLE 3.14: SERIES 2 – ETHNIC DISTRIBUTION OF PERPETRATORS

The inter-ethnic distribution of Series 2 is represented in Figure 3.21.



NOTE: THE 'OTHER' CATEGORY COMPRISES:		
	WHITE ON AFRICAN	0.7%
	COLOURED ON AFRICAN	0.7%
	ASIAN ON COLOURED	0.7%
	AFRICAN ON ASIAN	0.5%
	ASIAN ON AFRICAN	0.5%
	WHITE ON COLOURED	0.3%
	COLOURED ON WHITE	0.3%
	WHITE ON ASIAN	0.2%

Discussion

From these figures, it is evident that by far the majority of rapes are perpetrated within the same ethnic groups (81.6%). This statistic is similar for

countries where there are different ethnic groups among the population. In the US studies have shown that the number of cases of rape where the racial or ethnic group of the assailant and the survivor is different, range from 10% to 21% of cases. [26, 39, 56, 69] In Germany a study reported the survivor and offender from different race groups in 7.8%. [70]

3.2.2.2 Relationship to survivor

Results

The results are presented in Table 3.15.

Relationship	Number of cases	Percentage
Known	107	18.3
Unknown	468	80.1
Not Stated	9	1.6

TABLE 3.15: SERIES 2 – RELATIONSHIP OF SURVIVOR TO PERPETRATOR

As noted the incidence of stranger rape in this series was high (80.1%) and the arguments proposed in the discussion on age distribution apply to this distribution. This finding is unusual compared to other studies, and may be a shortcoming of the present series. The rape survivors during 1992 when interviewed by the attending doctor were only asked the question "do you know the person who raped you?" If the question was more probing concerning the types of 'knowing' e.g. knows by sight, friend of a friend, then this result may have contained less stranger rapes. This aspect of the questionnaire, which forms part of the protocol of the MLC, was changed following this series to accommodate this limiting factor.

Although not documented, from the interviews with the survivors, in the cases where the survivor knew the perpetrator it was found that it was more often a friend, or friend of a friend than an intimate family member.

3.2.2.3 Number of Perpetrators

Results

The number of perpetrators per case is presented in Table 3.16.

Perpetrators	Number of cases	Percentage
One	380	65.1
Gang	197	33.7
Two	90	15.4
Three	51	8.7
Four	25	4.3
Five	8	1.4
> Five	23	3.9
Not known	7	1.2

TABLE 3.16: SERIES 2 – NUMBER OF PERPETRATORS

Discussion

In this series 65.1% of the survivors were raped by one assailant, with an alarming number being gang raped (33.7%). The definition of gang in this series was taken at two or more perpetrators. During the early nineties a subculture of gangs developed in Soweto who had the specific intention of

abducting young women and girls to rape them.[71] These gangs were known as 'jackrollers'. In the present series many of the women who were raped by more than two perpetrators described it as 'jackrolling'. More than one assailant was also a feature of the rapes committed during incidents of housebreaking and theft.

The dynamics of gang rape appear to be related to camaraderie and male bonding. There is often a ritualistic aspect. The focus of the rape is not the survivor but the assailants themselves in watching and taking turns. The women is merely the vehicle for the interaction of the men amongst themselves.[32]

A survey of the literature with regard to relationship of perpetrator to survivor, and the number of assailants involved in each attack was performed, and the findings are tabulated in Table 3.17.

Study	City/ Country	% of assailants known to survivor	% of cases with > 1 perpetrator
Hicks[2]	Dade County, US (1974)	48.0	14.9
Heise[4]	Lima, Peru	60.0	
Heise[4]	Malaysia	68.0	
Heise[4]	Mexico City, Mexico	67.0	
Heise[4]	Panama City	63.0	
Holmstrom et al[32]	Boston, US	39.0	29.6
Schiff[39]	Dade County, US (1967)	33.0	42.0
Muram et al[47]	Memphis, US	40.8	27.6
Penttilä et al[48]	Helsinki, Finland	25.0	
Helweg-Larsen[51]	Copenhagen, Denmark 1975 1980	 56.0 65.0	
Tintinalli et al[52]	Detroit, US	31.0	
Hayman et al[56]	District of Columbia, US	40.0	38.0
Sorenson et al[61]	Los Angeles	77.8	
Voight[62]	Copenhagen, Denmark	58.0[a]	
Bownes et al[64]	Belfast, Northern Ireland	42.0	
Stermac et al[65]	Toronto, Canada	67.4	15.7
Peipert et al[66]	Rhode Island, US	65.5	
Everett et al[67]	Oklahoma, US	27.0	8.0
Cartwright et al[68]	Nashville, US	51.0	16.0
Emmert et al[70]	Leipzig, Germany	33.5[b]	8.4[c]
Olusanya et al[72]	Benin City, Nigeria	33.3[d]	46.8

TABLE 3.17: STATISTICS ON RAPE PERPETRATORS, SELECTED STUDIES

[a] Of a total of 650 includes 26 male survivors

[b] Study group 11 to 18 year old

[c] Study group 0 to 18 year old

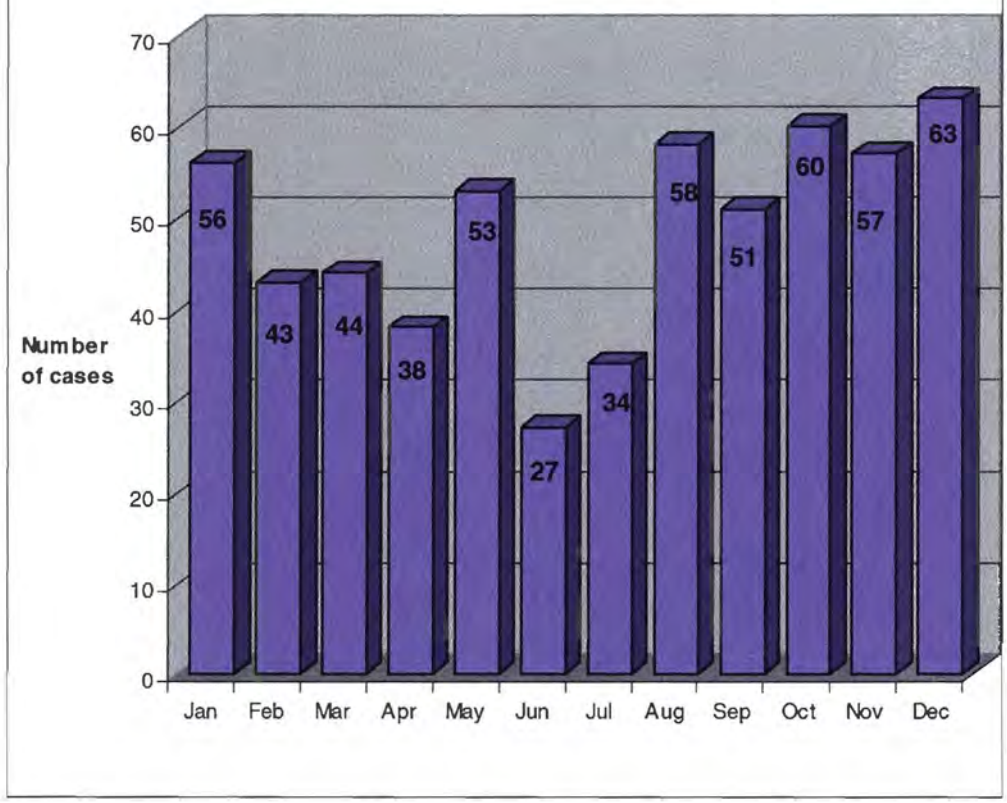
[d] Study group 13 years and older

3.2.3 EPIDEMIOLOGY: CRIME

Results

The incidence of reported rapes in Johannesburg in 1992 was increased in the summer months, which is illustrated in Figure 3.22. The only exception to this trend is the 53 reported cases in May.

Figure 3.22: SERIES 2 - Monthly distribution (n=584)



Although not documented it was observed that the majority of rapes occurred over the weekends and on public holidays, and the clinic saw more rape survivors during the hours of 18h00 to 06h00.

Discussion

The role of the season in various violent crimes has been previously discussed in chapter 3.1.3.1. The finding of Michael et al [57] is confirmed with the findings of series 2.

A study of rape survivors from the District of Columbia in the US also noted an increase during the summer months, with the highest frequency between 22h00 and 02h00.[56] A review article presented statistics from five cities in the US, all of which showed a similar trend of increased summer frequency for rape attacks.[26] However, another US study reported no difference in the frequency of rapes related to the season, but 72% of the attacks occurred between 18h00 and 06h00.[68]

Studies from Europe show a similar increase in summer months[48] with frequencies up to 63%. [62] These studies also reflect most rapes occurring between the hours of 18h00 and 06h00.[62, 70]

REFERENCES

22. Hazelwood RR, Dietz PE, Burgess AW. Sexual Fatalities: Behavioral Reconstruction in Equivocal cases. J Forensic Sci 1982; 27(4): 763-773.
23. Deming JE, Mittleman RE, Wetli CV. Forensic Science Aspects of Fatal Sexual Assaults on Women. *J Forensic Sci* 1983 Jul; 28(3): 572-576.
24. Marchbanks PA, Kung-Jong L, Mercy JA. Risk of Injury from Resisting Rape. Am J Epidemiol 1990 Sep; 132(3): 540-549.
25. Hayman CR, Lanza C. Sexual Assault on Women and Girls. Am J Obstet Gynecol 1971; 109(3): 480-486.
26. Woodling BA, Evans JR, Bradbury MD. Sexual Assault: Rape and Molestation. *Clin Obstet Gynecol.* 1977 Sep; 20(3): 509-530.
27. Halbert DR, Jones DED. Medical Management of the Sexually Assaulted Woman. J Reprod Med 1978 May; 20(5): 265-274.
28. Geist RF. Sexually Related Trauma. Emerg Med Clin North Am 1988 Aug; 6(3): 439-466.
29. Petter LM, Whitehill DL. Management of Female Sexual Assault. Am Fam Physician 1998 Sep; 58(4): 920-926.
30. South African Police Services. Crime Information Analysis Center (Western Cape), 1999.
31. Statistics South Africa. The People of South Africa Population Census, 1996. Magisterial Districts by Population Group and Gender. Report No:03-01-42 (1998).
32. Holmstrom LL, Burgess AW. Sexual behaviour of assailants during reported rapes. *Arch Sex Behav.* 1980 Oct; 9(5): 427-439.
33. Ullman SE, Knight RA. A Multivariate Model for Predicting Rape and Physical Injury Outcomes During Sexual Assaults. *J Consult Clin Psychol* 1991 Oct; 59(5):724-731.
34. Block R, Skogan WG. Resistance and Nonfatal Outcomes in Stranger-to-Stranger Predatory Crime. *Violence Vict* 1986; 1(4): 241-253.
35. Burge SK. Violence Against Women. *Prim Care* 1997 Mar; 24(1): 67-81.

36. Ruback RB, Ivie DL. Prior Relationship, Resistance, and Injury in Rapes: An Analysis of Crisis Center Records. *Violence Vict* 1988; 3(2): 99-111.

37. Ramin SM, Satin AJ, Stone IC, Wendel GD. Sexual Assault in Postmenopausal Women. *Obstet Gynecol* 1992 Nov; 80(5): 860-864.

38. Swiss S, Giller JE. Rape as a Crime of War: A Medical Perspective. *J A M A*. 1993 Aug; 270(5): 612-615.

39. Schiff AF. Statistical features of rape. *J Forensic Sci* 1969 Jan; 14(1): 102-110.

40. Duflou JALC, Lamont DL, Knobel GJ. Homicide in Cape Town, South Africa. *Am J Forensic Med Pathol* 1988; 9(4): 290-294.

41. Fanslow JL, Norton RN, Spinola CG. Indicators of Assault – Related Injuries Among Women Presenting to the Emergency Department. *Ann Emerg Med*. 1998 Sep; 32(3 pt 1): 341-348.

42. Härm T, Rajs J. Types of Injuries and Interrelated Conditions of Victims and Assailants in Attempted and Homicidal Strangulation. Forensic Sci Int 1981 Sep; 18(2): 101-123.

43. Johnson SD, Gibson L, Linden R. Alcohol and Rape in Winnipeg, 1966 – 1975. *J Stud Alcohol*. 1978 Nov; 39(11): 1887-1894.

44. Lerer LB. Women, Homicide and Alcohol in Cape Town, South Africa. *Forensic Sci Int* 1992; 55: 93-99.

45. Knobel GJ. Alcohol Related Mortality. In: South African Community Epidemiology Network on Drug Use: Monitoring Alcohol and Drug Abuse Trends. Proceedings of Report Back Meeting, 16 March 1999; Cape Town. Medical Research Council, Mental Health and Substance Abuse Division. In press.

46. Goodyear-Smith FA. Medical evaluation of sexual assault findings in the Auckland region. N Z Med J 1989 Sep; 102(876): 493-495.

47. Muram D, Hostetler BR, Jones CE, Speck PM. Adolescent Victims of Sexual Assault. *J Adolesc Health*. 1995 Dec; 17(6): 372-375.

48. Penttilä A, Karhumen PJ. Clinical Criminology: Rape Medicolegal Findings among Rape Victims. *Med Law* 1990; 9(1): 725-737.

49. Alexander BH, Franklin GM, Wolf ME. The Sexual Assault of Women at Work in Washington State, 1980 to1989. Am J Public Health 1994 Apr; 84(4): 640-642.

50. Seligman PJ, Newman SC, Timbrook CL, Halperin WE. Sexual Assault of Women at Work. Am J Ind Med 1987; 12(4): 445-450.

51. Helweg-Larsen K. The Value of the Medico-Legal Examination in Sexual Offences. Forensic Sci Int 1985; 27: 145-155

52. Tintinalli JE, Hoelzer M. Clinical Finding and Legal Resolution in Sexual Assault. Ann Emerg Med 1985 May; 14(5): 447-453.

53. Rambow B, Adkinson C, Frost TH, Peterson GF. Female Sexual Assault: Medical and Legal Implications. Ann Emerg Med 1992 Jun; 21(6): 727-731.

54. Cartwright PS, Moore RA, Anderson JR, Brown DH. Genital Injury and Implied Consent to Alleged Rape. J Reprod Med 1986 Nov; 31(11): 1043-1044.

55. Kahn F. Annual Report – 1996: Office of the Attorney General: Western Cape; 1996

56. Hayman CR, Lanza C, Fuentes R, Algor K. Rape in the District of Columbia. Am J Obstet Gynecol 1972 May; 113(1): 91-97.

57. Michael RP, Zumpe D. Sexual Violence in the United States and the Role of Season. Am J Psychiatry 1983 Jul; 140(7): 883-886.

58. Rao VJ. Patterned Injury and Its Evidentiary Value. J Forensic Sci 1986 Apr; 31(2): 768-772.

59. Department of Forensic Medicine and Toxicology, University of Cape Town. Annual Mortality Report 1998. Cape Town.

60. Central Statistic Services. 1991 Population Census: Selected Statistics Region: Johannesburg/Randburg, Social Characteristics. Part1, Report No. 03-01-16 [1991]; Part 2, Report No. 03-01-17[1991].

61. Sorenson SB, Stein JA, Siegel JM, Golding JM, Burnam MA. The Prevalence of Adult Sexual Assault: The Los Angeles Epidemiologic Catchment Area Project. Am J Epidemiol 1987 Dec; 126(6): 1154-1164.

62. Voight J. Sexual Offences in Copenhagen: A Medicolegal Study. Forens Sci 1972 Apr; 1(1): 67-76.

63. Ng AYH. The Pattern of Rape in Singapore. Singapore Med J 1974 Mar; 15(1): 49-50.

64. Bownes IT, O'Gorman EC, Sayers A. Rape – A Comparison of Stranger and Acquaintance Assaults. Med Sci Law 1991 Apr; 31(2): 102-109.

65. Stermac LE, Du Mont JA, Kalemba V. Comparison of Sexual Assaults by Strangers and Known Assailants in an Urban Population of Women. Can Med Assoc J 1995 Oct; 153(8): 1089-1094.

66. PeiPert JF, Domagalski LR. Epidemiology of Adolescent Sexual Assault. Obstet Gynecol 1994 Nov; 84(5): 867-871.

67. Everett RB, Jimmerson GK. The Rape Victim: A Review of 117 Consecutive Cases. Obstet Gynecol 1977 Jul; 50(1): 88-90.

68. Cartwright PS, Sexual Assault Study Group. Reported sexual assault in Nashville-Davidson County, Tenessee, 1980 to 1982. Obstet Gynecol 1986 May; 154(5): 1064-1068.

69. Cartwright PS, The Sexual Assault Study Group. Factors that Correlate with Injury Sustained by Survivors of Sexual Assault. Obstet Gynecol 1987 Jul; 70(1): 44-46.

70. Emmert C, Köhler U. Data about 154 children and adolescents reporting sexual assault. Arch Gynecol Obstet 1998; 261(2): 61-70.

71. The Women's Health Project. The South African Women's Health Book. Cape Town: Oxford University Press, 1996.

72. Olasanya O, Ogabemi S, Unuigbe J, Oronsaye A. The Pattern of Rape in Benin City, Nigeria. Trop Geogr Med 1986 Sep; 38(3): 215-220.

Chapter 4: NON GENITAL INJURIES

Introduction

The recognition and description of injuries is one of the fundamental aspects of forensic pathology. Of more importance is the interpretation of those injuries. Failure to recognise patterns of injuries can be detrimental by not recognising forensically significant injuries for what they are, e.g. an imprint abrasion of a tyre tread or buckle. This is of special significance in sex related murders e.g. when clusters of small circular or oval contusions, with or without crescentic abrasions are not recognised as fingerimprint contusions and/ or abrasions. The significance of these types of injuries increases when they are clustered around the neck or inner thighs. A second detrimental practice is ascribing significance to injuries that is unfounded.

One of the aims of this study is to describe the patterns of injury found in sex related attacks to enable practitioners to recognise the significance of the types of injury as well as the significance of their anatomical situation.

Interpretation of injury is often fraught with difficulty especially for the inexperienced practitioner. As the usual guidelines for examination of complainants in cases of sexual assaults direct practitioners to conduct a through head to toe examination and to record any and all injuries the problem of over interpretation might arise. This may lead to injuries present on the body before or after the attack being ascribed to the incident in question.

Additionally when a doctor describes an injury as a contusion, the assumption is that it is in fact a contusion, whereas inexperienced practitioners may confuse a birthmark or area of pigmentation as an injury.

It would obviously be of value to be able to determine exactly when an injury was sustained and thus be able to ascribe injuries to the incidents for which

the examination is being carried out. This, however, is a very difficult exercise, and usually only a period can be offered to which the injury is consistent. Of particular difficulty are contusions with many forensic pathology textbooks stating sequential temporal changes in the colour of contusions. A study in 1991 laid to rest the debate on colour changes in contusions with the conclusive finding that the only significant colour change in a contusion was the colour yellow.[73] The study found that the earliest this change could be visible was 18 hours.

It is of value in the examination of rape survivors to re-examine them one and two days later as contusions may not be immediately apparent if the initial examination is directly after the rape. Similarly, at autopsy, contusions may become more prominent, and 'new' contusions may appear 1 to 2 days post–mortem. Factors that account for this phenomenon include haemolysis, releasing freed haemoglobin, which is able to stain the tissues more diffusely than intact red blood cells. Percolation of blood from the deeper layers of tissues towards the epidermis, and continued bleeding from breached vessels account for the later prominence of contusions in the living.[21]

Although the incidence of false reporting of rape is rare, the practitioner always needs to consider the possibility that injuries may be self-inflicted.[21] These types of injuries are more likely to be inflicted to the body than to the genitalia. Features that are associated with self-inflicted injuries are: [16]

Located to body surfaces accessible to the dominant hand.
Sparing of sensitive areas e.g. eyelids, nipples.
Superficial injuries which will usually completely heal.
Multiple incised wounds are often parallel.
State of healing inconsistent with proposed aetiology.

In sex related attacks the assailant often focuses on various body areas e.g. the face and neck. In the discussion attention will be paid to these areas as well as to special types of injuries frequently associated with rape i.e. bites and fingerimprint contusions/ abrasions.

The incidence of non-genital injuries in Series 1, deceased victims (98.3%), is expected as the perpetrators in these cases have used much more violence compared to the living survivors. The non-genital injuries in Series 2 (37.3%) confirms the premise that not all women who are raped display external physical signs of trauma.

4.1 SERIES 1: DECEASED VICTIMS

The areas of the body were categorised in to the following groups for documentation of the external injuries:

Head
Neck
Chest – anterior and posterior
Abdomen – anterior and posterior
Upper limbs
Lower limbs
Buttocks

The internal injuries were categorised into the following groups:

Brain, skull, scalp
Neck
Chest cavities, lungs, heart
Bowels, liver, spleen, kidneys, pancreas
Spinal cord

The pelvic and bladder injuries have been included with genital injuries for completeness.

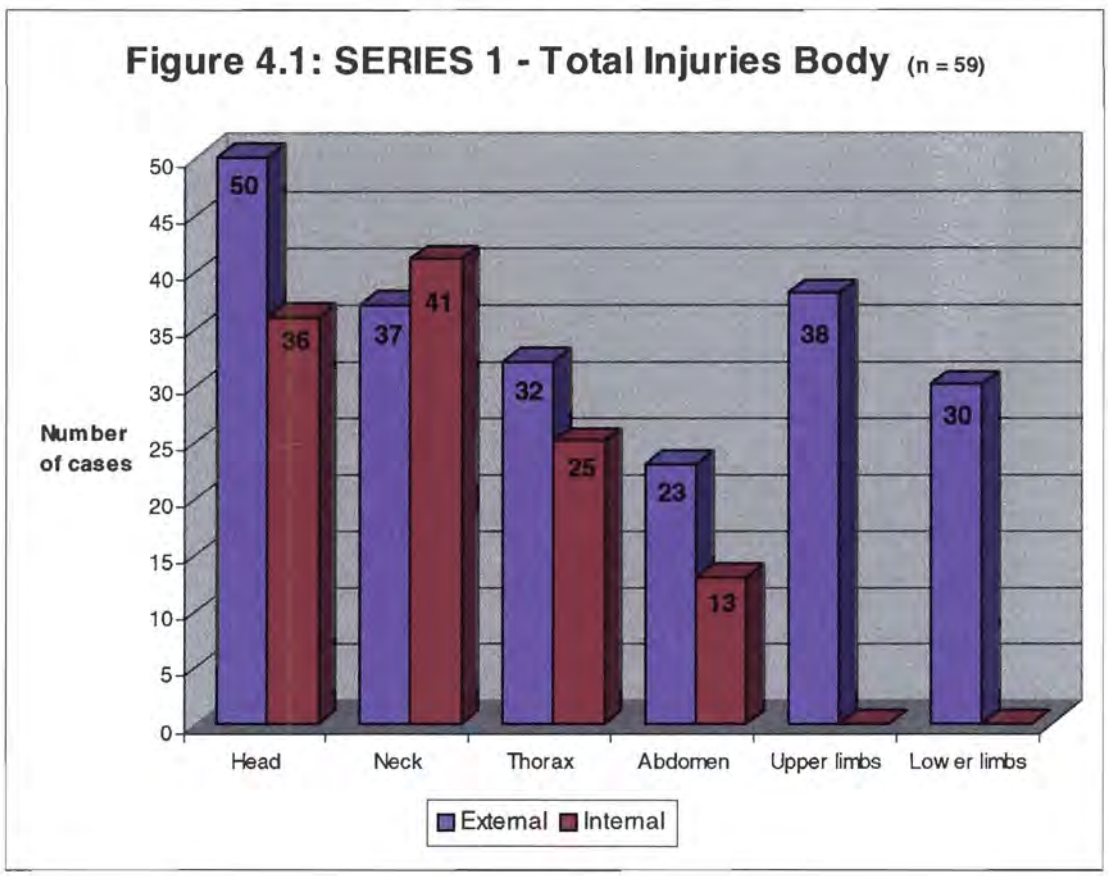
4.1.1 TOTAL BODY INJURY

Results

As is expected the incidence of injury in this group is high (98.3%) as the perpetrators in this group have used much more violence compared to the living survivors.

The body area with the highest number of external injuries was the head (84.7%), with external injuries to the upper limbs and neck in 64.4% and 62.7% of cases respectively.

Interestingly, the neck was the body area with the highest number of cases recording an internal injury (69.5%), which is higher than the number of cases with external injuries to the neck. The remainder of the body areas showed internal injuries in the following decreasing order of frequency, head (61.0%), thorax (42.4%), and abdomen (22.0%). The total number of cases with external and internal body injuries are illustrated in Figure 4.1.

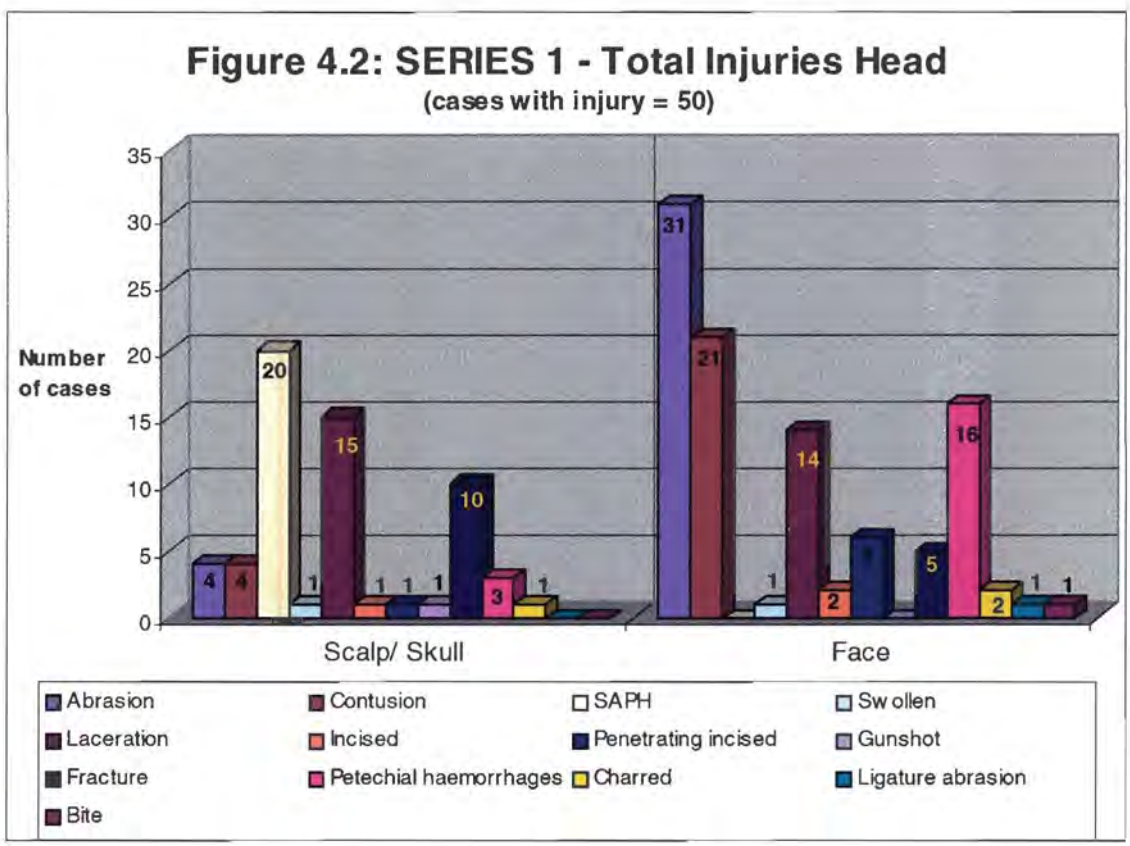


4.1.2 HEAD

Results

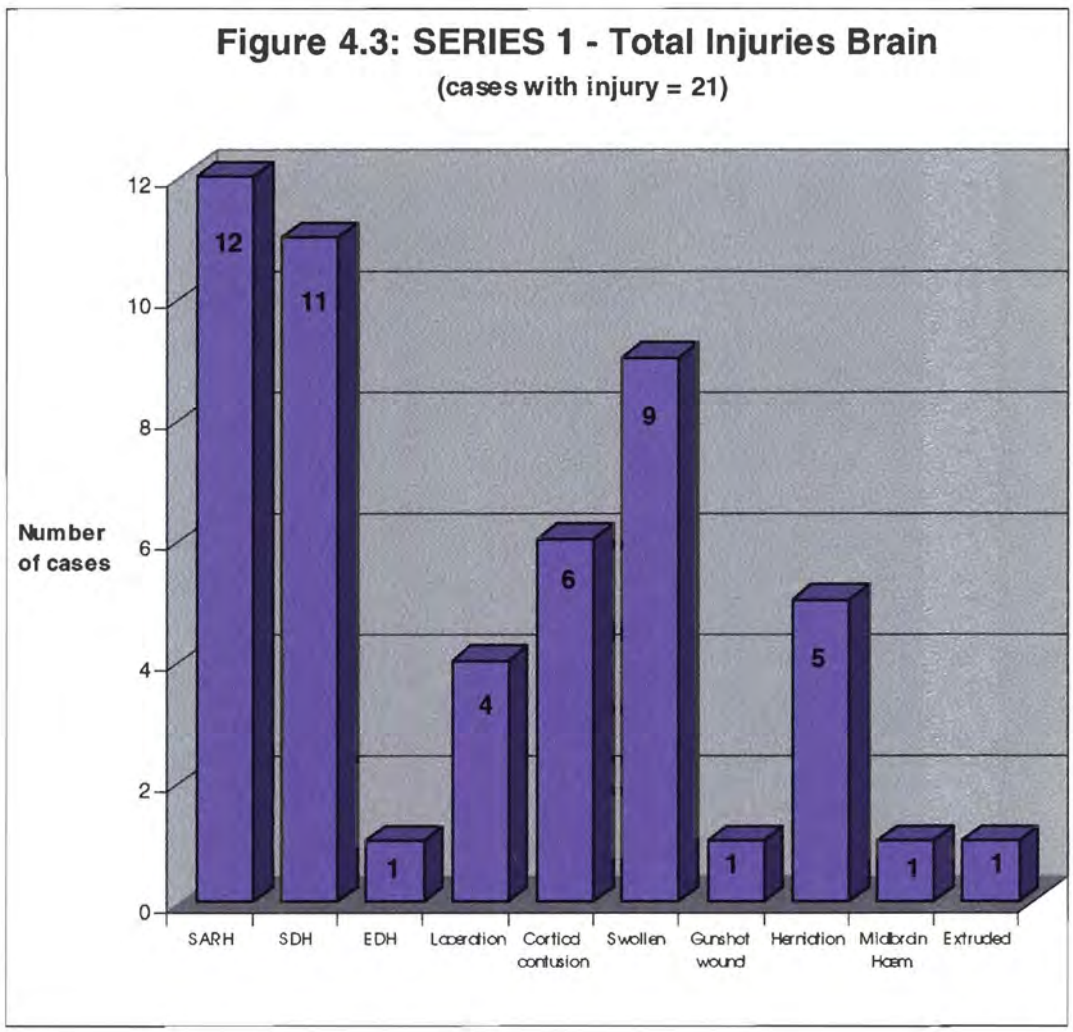
Fifty cases had external injuries to the head (84.7%), which were present on the face, the scalp, or both areas. By far the majority of cases with external head injuries presented with the injury on the faces of the decedents (79.7%). The scalp showed injury in 61.0% of cases. In only 12 cases there was no facial injury (20.3%), and in 23 cases no scalp injury (39.0%).

The commonest type of injury to the face was abrasion (52.5%), followed by contusion (35.6%) and laceration (23.7%). There were 16 cases that showed subconjunctival petechial haemorrhages. The commonest injury to the scalp was contusion with 20 cases presenting with subaponeurotic haemorrhages, followed by laceration (25.4%), and skull fractures in 10 cases (16.9%). Three cases had facial, as well as, skull fractures. The range of injuries to the head is presented in Figure 4.2.



Injuries to the brain were seen in 21 cases, with meningeal bleeds the commonest type of injury. This resulted in head injury stated as a sole cause of death in 12 cases, whereas the remainder of the cases with head injuries were in combination with other potentially fatal injuries.

The range of injuries to the brain are shown in Figure 4.3.



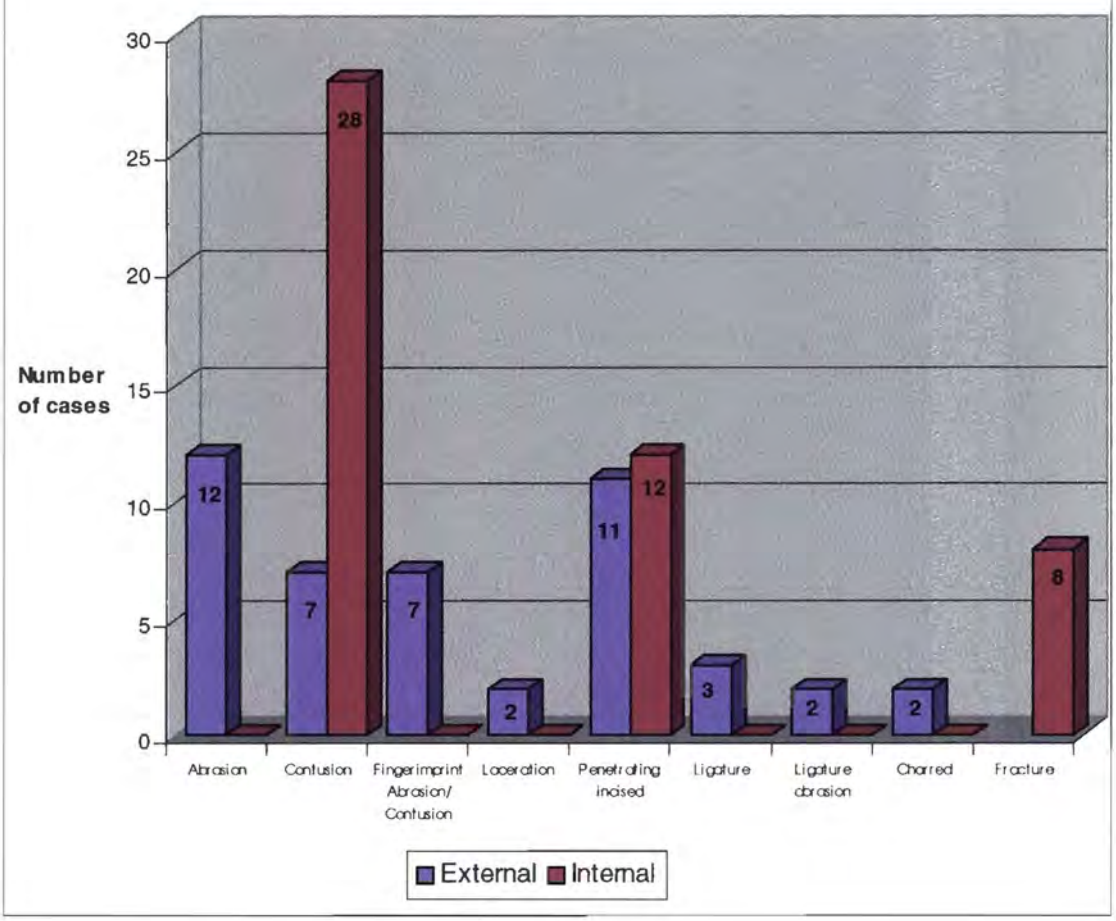
SARH	Subarachnoid haemorrhage
SDH	Subdural haemorrhage
EDH	Extradural haemorrhage

4.1.3 NECK

Results

As previously mentioned there were more cases with internal neck injury than external. Of the 37 cases with external injury, 29 cases had only one type of injury whereas eight cases had a combination of types of injury. The commonest external injury was abrasion (20.3%) followed by penetrating incised wounds (18.6%). The number of cases with fingerimprint abrasion/contusion was 7. The internal injuries to the neck were of three categories contusion (28 cases), penetrating incised wounds (12 cases) [Note: one of the penetrating incised wounds entered the neck region from the face.] and fracture to either the hyoid bone or thyroid cartilage (8 cases). These injuries are illustrated in Figure 4.4.

Figure 4.4: SERIES 1 - Total Injuries Neck



4.1.4 THORAX

Results

Most of the external injuries to the thorax were over the anterior aspect with 19 cases presenting with one type of injury and six cases with more than one. The external injuries over the posterior chest numbered 14 cases with one type of injury and three cases with a combination. The total number of cases with external thoracic injury was 32. The types of injuries sustained to the chest are tabulated in Table 4.1.

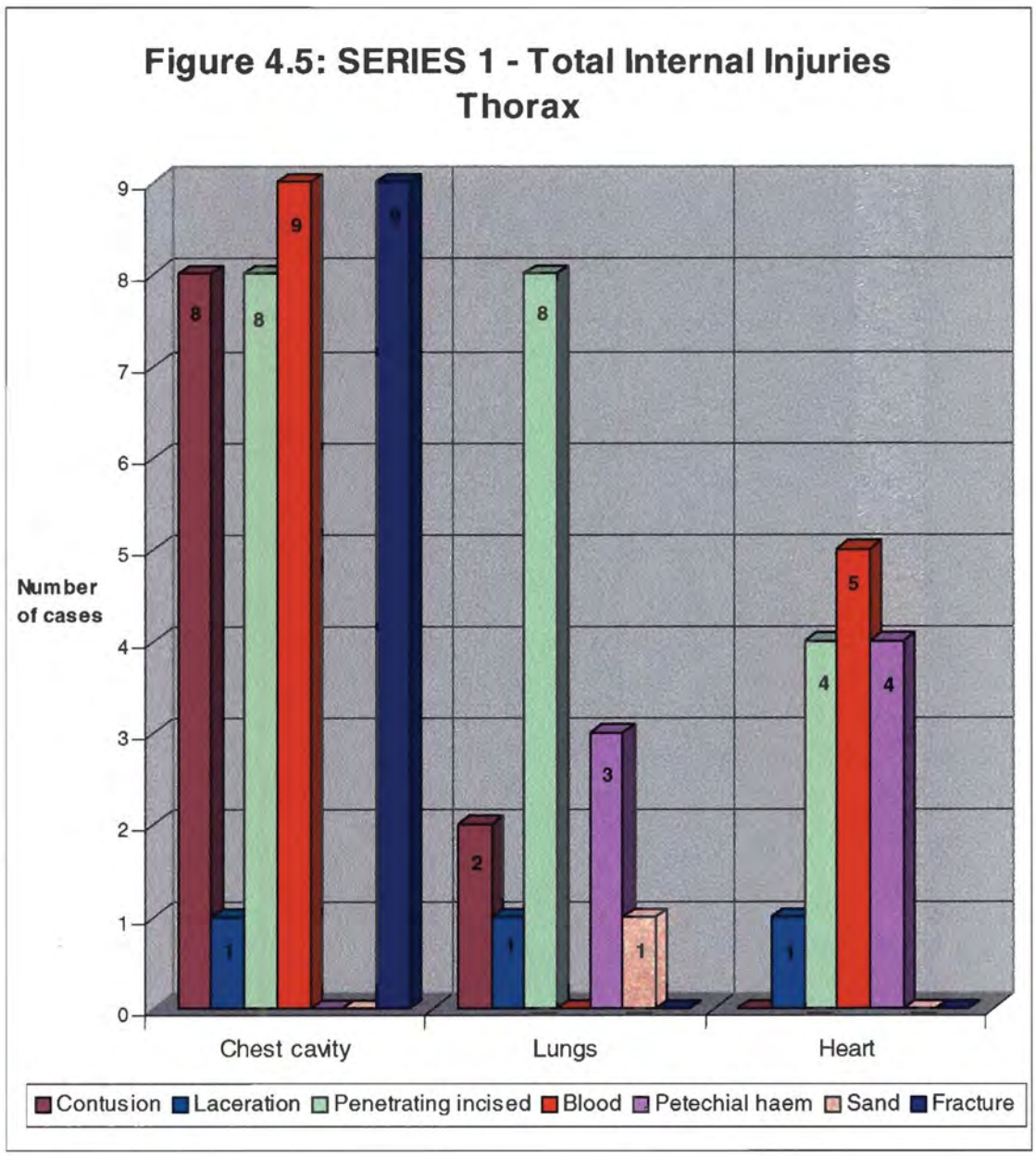
Injury type	Anterior chest (no. of cases)	Posterior chest (no. of cases)
Abrasion	7	6
Contusion	10	5
Fingerimprint abrasion/contusion	2	0
Penetrating incised	8	7
Incised	0	1
Bite	3	0
Petechial haemorrhages	1	0
Charred	2	1
Burns	0	2

TABLE 4.1: SERIES 1 – EXTERNAL INJURIES TO CHEST

The number of cases with internal thoracic injuries was 25. The internal injuries were documented as those inflicted on the chest cavity, the lungs and the heart. Fractures, intercostal muscle contusion, and penetrating incised wounds were the commonest injury to the chest cavities, with nine cases having a haemothorax/ haemothoraces. Penetrating incised wounds were the

most frequent injury to the heart and lungs. In four cases subepicardial petechial haemorrhages were noted and subpleural petechial haemorrhages in three cases.

The range of internal thoracic injuries is presented in Figure 4.5.



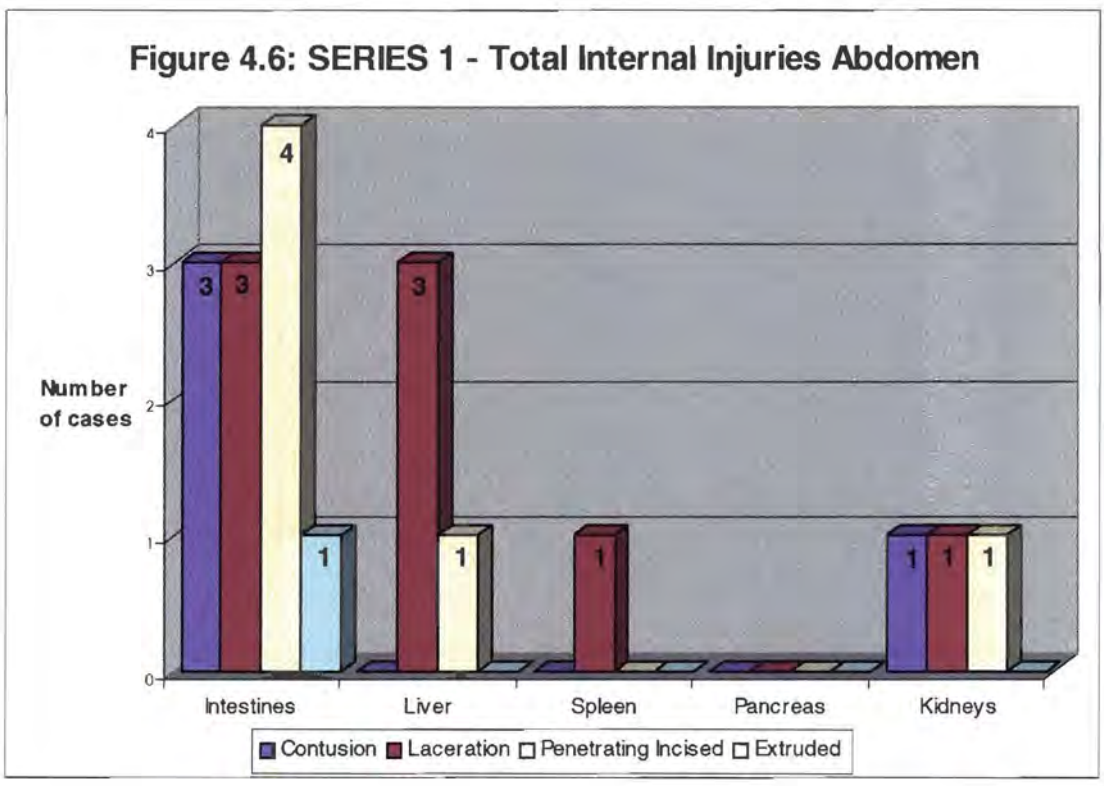
4.1.5 ABDOMEN

Results

The total number of cases with external evidence of injury to the abdomen was 23, with 14 cases showing one type of injury to the anterior abdomen and four cases with more than one injury type. The injuries to the posterior abdomen were a single type in nine cases and of multiple types in three cases. The most frequently evidenced injury to both the anterior and posterior aspect of the abdomen was that of abrasion, followed by contusion and then penetrating incised wounds. Other injuries that were noted included incised wounds (anterior abdomen in two cases), charring (two cases anterior, one case posterior) and burns (one cases posterior).

Of the internal organs, only the pancreas escaped injury in all 59 cases. The organ that suffered the most injuries was the bowel, which in one case was extruded through a burn laceration. The liver, spleen and kidneys all suffered lacerations. The range of injuries is expressed in Figure 4.6.

Figure 4.6: SERIES 1 - Total Internal Injuries Abdomen

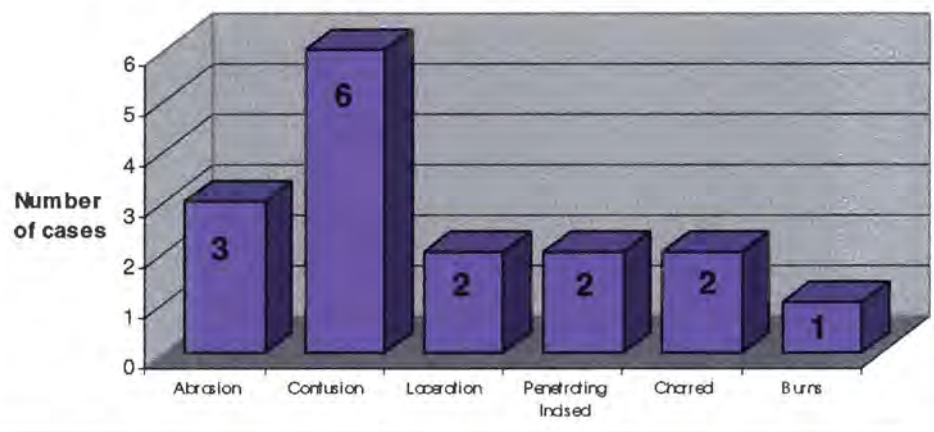


4.1.6 BUTTOCKS

Results

Injury to the buttocks was recorded as external injury only and 14 cases showed evidence of injury. Of these, 11 cases had one type of injury only. These injuries are illustrated in Figure 4.7.

Figure 4.7: SERIES 1 - Total Injuries Buttocks



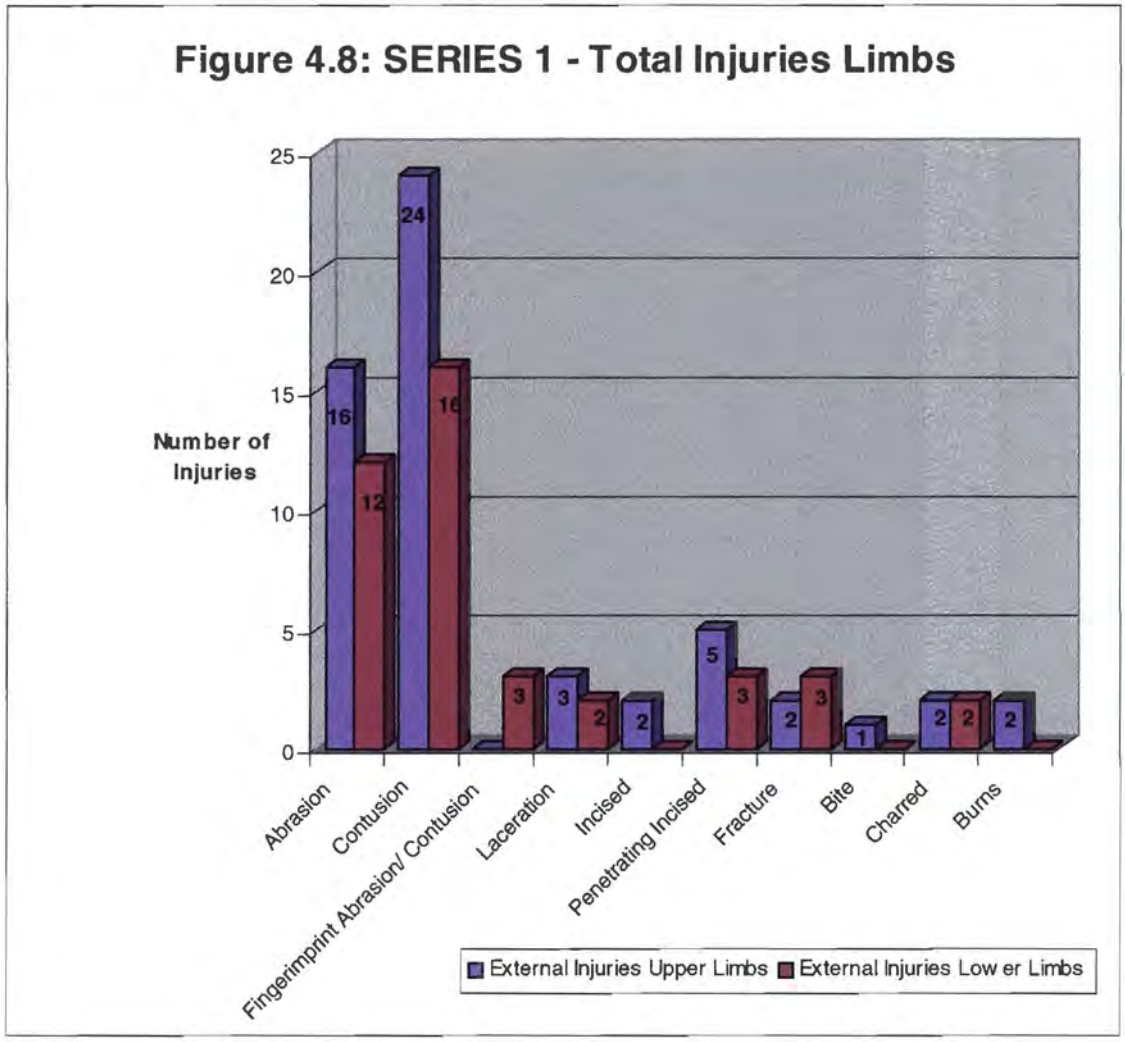
4.1.7 LIMBS

Results

The injuries in this category were not differentiated into external and internal. The total number of cases with injury to the upper limbs was 38 and to the lower limbs was 30. The commonest injury in both groups was contusion, followed by abrasion. In two cases, there were fractures of the upper limbs and of the lower limbs in three cases. Also of note was the presence of fingerimprint abrasions/ contusions on the legs of three cases and a bite of the arm in one case.

The range of injuries seen on the limbs of the decedents in Series 1 is illustrated in Figure 4.8.

Figure 4.8: SERIES 1 - Total Injuries Limbs



4.1.8 SPINAL COLUMN

Results

The spinal column was injured in three cases. There were two instances of penetrating incised wounds to the spinal cord (*Cases 8 and 38*) and one case had a cord laceration following a fracture of the cervical spine (*Case 51*).

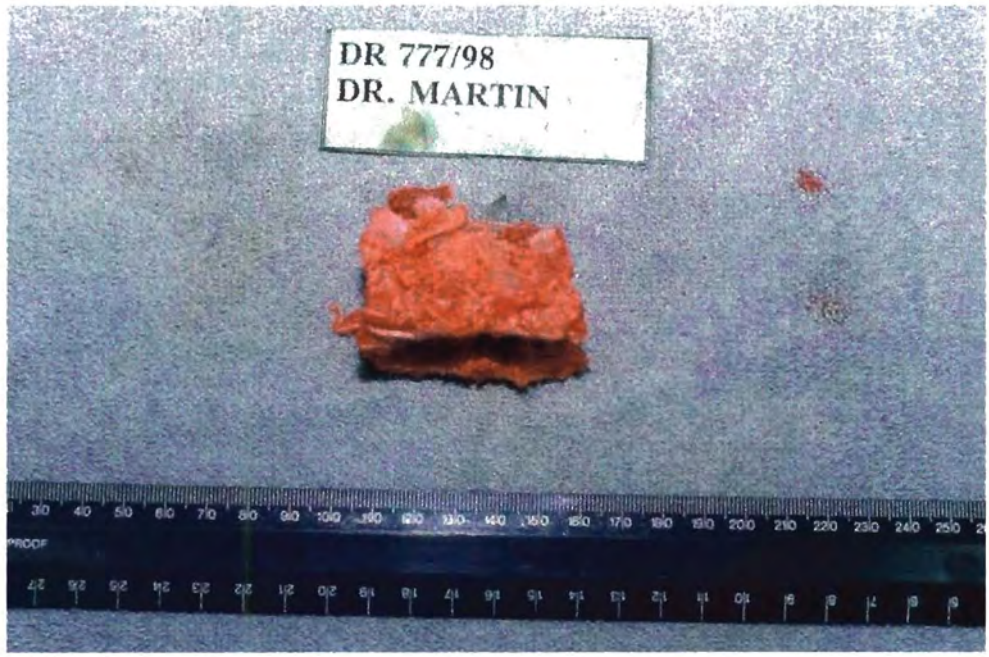


FIGURE 4.9A: SERIES 1 - CASE 38, KNIFE TIP EMBEDDED IN VERTEBRAL COLUMN

FIGURE 4.9B: SERIES 1 - CASE 38, X-RAY OF KNIFE TIP.

4.1.9 DISCUSSION

4.1.9.1 Neck Injuries

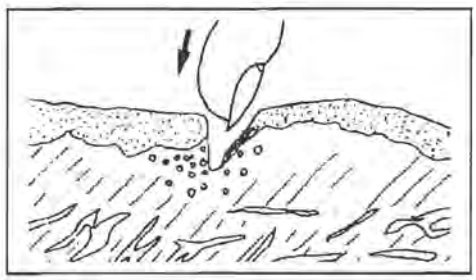
In the study by Deming et al on fatal sexual assaults[23], the profile given of a fatal sexual assault victim is one who dies from mechanical asphyxiation. In their series 51% of the victims died in this manner. From the author's series signs of internal injury to the neck were present in 69.5% of cases and in 25.4% the cause of death was stated as due to strangulation. Thus, the present series complies with the previously researched profile of mechanical asphyxiation of rape homicide victims.

Fingernail injuries

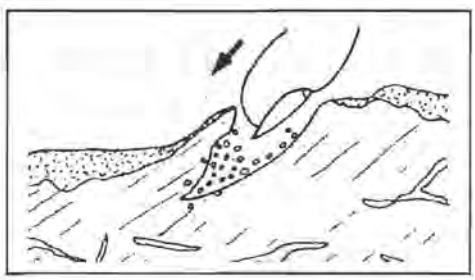
In a study on types of injuries in strangulation, Härm and Rajs[42] have classified the type of injury cause by nails into three categories, impression marks, claws and scratches. Impression marks are described as curved, oval, triangular or rectangular linear marks up to 15mm in length and a few mm in width. These are caused by crushing of the epidermis with the free edge of the nail and include an amount of rotation. Commonly a round dermal contusion accompanies these marks, caused by pressure of the fingerpad. These types of injury are noted by the author as fingerimprint contusions and/ or abrasions depending on the presence of an injury caused by the nail.

The claw injury is caused by a tangential effect of a sharp nail to the dermis and epidermis. These appear as U-shaped injuries with a piece of protruding skin between the symmetrical arms, from a few millimetres to centimetres in length.

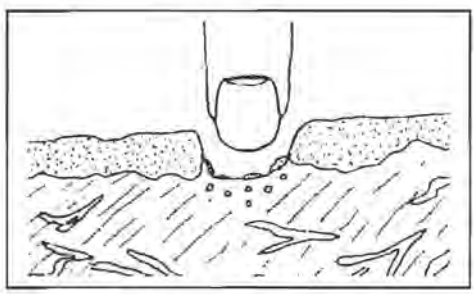
Thirdly, they describe scratches to the epidermis. These range from superficial weals to deeper dermal injuries with accompanying bleeding, and up to many centimetres in length. A schematic illustration of these injuries is presented in Figure 4.10.



The origin of the nail impression – the fingertip digs into the skin. The nail destroys the epithelium. A haemorrhage may appear in the dermis corresponding to the fingertip.



The origin of the claw – the nail cuts the epidermis and dermis tangentially.



The origin of the nail scratch – only the epithelium is injured.

FIGURE 4.10. SCHEMATIC PRESENTATION OF THE ORIGINS OF THE THREE GROUPS OF NAIL INJURY[42]

In their study, the commonest type of nail injury found on rapists was scratches, mainly situated on the assailants' hands and faces. The homicide victims had the impression type of injury most commonly.[42] Fingerimprint contusions/ abrasions were found in 11.9% of the rape homicide victims in the present study. It is the author's opinion that this is under reported in this series, and that in the instances of bruising of the neck the contusions are documented but not assigned the specific description of imprint injuries. A

range of neck injuries from the present series is illustrated in Figure 4.11 to 4.13.

FIGURE 4.11: SERIES 1 - CASE 40, EXTERNAL NECK INJURIES.

FIGURE 4.12: SERIES 1 - CASE 10, EXTERNAL NECK INJURIES.

FIGURE 4.13. SERIES 1 - EXTERNAL NECK INJURIES CASE 54

4.1.9.2 Sharp force injury

With regard to sharp force injury, it was again noted that in many cases there were multiple stab wounds present on the bodies of the decedents. In *Case 14* there were at least 35 penetrating incised wounds (Figure 4.14) and in *Case 38* at least 22 external stab wounds were noted. A study on homicide in Cape Town revealed 60.0% of cases died of incised wounds and 21.8% of blunt object injury.[40] They also noted that 41.3% of these victims had a singular stab wound, with 14.0% having more than ten incised wounds. In Butchart's study of inter-personal violence[12], he also noted that sharp force violence was the commonest cause of injury in females (51.4%) presenting to hospital following an assault.

FIGURE 4.14. SERIES 1 - MULTIPLE PENETRATING INCISED WOUNDS CASE 14

4.1.9.3 Gunshot injuries

Only one case in this series had evidence of a gunshot wound (*Case 8*), but this was in combination with multiple penetrating incised wounds of the neck and vagina. The number of homicide cases dying of gunshot wounds in Cape Town in 1986 was 18.0%[40] and this had risen to 41.5% in 1998 for female homicide cases.[59]

4.1.9.4 Defense wounds

The large number of injuries noted to the upper limbs can be attributed firstly to defence wounds, noted mainly on the palmar aspects of the hands and ulnar aspects of the forearms. Secondly, to grabbing of the upper arms, and pinning down the upper arms with hands or kneeling on them.

4.1.9.5 Facial injuries

An alarming number of rape homicide victims in this series showed evidence of massive blunt trauma, often in addition to the strangulation injuries. Of particular predilection are the head and especially the face. A number of cases were particularly violent with massive crush injuries to the head caused by large rocks and concrete slabs that were available on the scene (Figure 4.15). This use of available weapons was also noted in Deming et al's study where the ligatures used were items that were readily available on the scene.[23]

FIGURE 4.15. SERIES 1 - CRUSH INJURY OF HEAD, CASE 51

Although the literature search did not produce any articles for comparison concerning facial injuries in rape homicide victims a number of studies have been done on survivors of assault. Shepherd et al found the face to be the most common area for injury. They suggest that this is due to a choice by the assailant for this 'target' area as well as its accessiblity.[74] They also note that women have significantly less facial injuries and that the assailants are usually male, concluding that male assailants avoid striking the face of females so

that the injuries will not be apparent to others. Huang et al also noted less female victims of assault with facial injury, and 61.3% of their documented cases were perpetrated by a boyfriend or husband.[75] In a further study of injury to women in violent assaults[76] 20.0% had maxillofacial trauma, usually soft tissue, and in instances of rape the face was the selected target of violence.[76]

Figures 4.16 and 4.17 illustrate facial injuries from Series 1.

FIGURE 4.16. SERIES 1 - FACIAL INJURIES, CASE 49

FIGURE 4.17. SERIES 1- FACIAL INJURIES, CASE 59.

4.1.9.6 Bites

Bite-marks present a pattern of injury that is most commonly found with rape, child abuse, other forms of sexual behaviour and self-defence.[77]

In a review article on bites Furness[78], a forensic odontologist, presents a series of case reports. All but one of the cases which involve bites to human skin are inflicted during either rape or child abuse. The number of cases with bite-marks in the present series is low (3). The author has only seen one case, in her eight-year experience that was inflicted on an assault victim, which was not a sex related crime or child abuse. Bite-marks provide highly specific evidence and have, in the past, provided the singular evidence that has led to convictions.[78]

There are several forensic odontology organisations and they have formulised strict guidelines and standards for the interpretation of bite-marks which continue to assist the medicolegal profession.[79]

Figure 4.18 illustrates bite-marks from the present series.

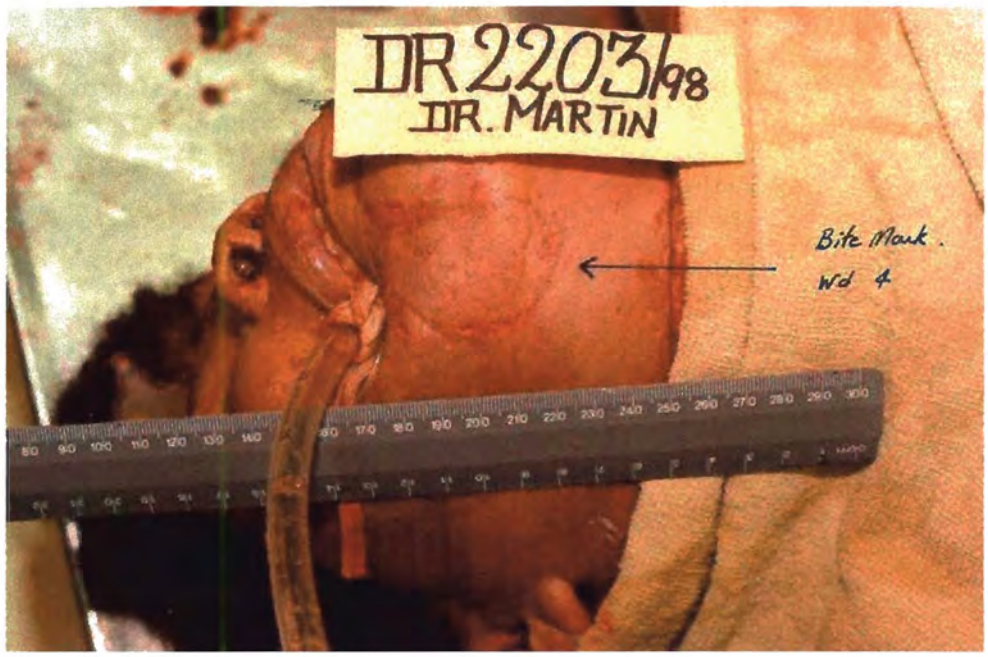


FIGURE 4.18A: SERIES 1 - CASE 50, FACIAL BITE WOUND.

FIGURE 4.18B: SERIES 1 - CASE 50, BITE WOUND TO FOREARM.

4.2 SERIES 2: LIVING SURVIVORS

For the purpose of collection and documentation of injuries in series 2 the body areas were grouped together into the following body areas:

Area 1:	facial
Area 2:	upper limbs
Area 3:	anterior neck, chest and abdomen
Area 4:	posterior neck, chest and abdomen
Area 5:	lower limbs

Each body area was then assigned different types of injury that included contusion, abrasion/ laceration and fracture. Area 1 was given a further category of periorbital haematoma to differentiate it from other facial contusion.

In this series, the severity of each individual injury was not graded. The injuries were grouped together as per body area (as above) and the severity of the assault for each rape survivor was graded according to the number of bodily areas involved.

4.2.1 TOTAL BODY INJURY

Results

A total of 218 (37.3%) rape survivors had evidence of non-genital injury. From the injured rape survivors, 444 individual injuries were recorded. The most common areas of injury in rape survivors were the face and the upper limbs, with facial contusion (17.6%) the most recorded injury.
These results are illustrated in Table 4.2.

BODY AREA / INJURY	No. of injuries (n=444)	Percentage
FACE		
Contusion	53	11.9
Periorbital haematoma	25	5.6
Abrasion/ laceration	42	9.5
Fracture	1	0.2
Total:	121	27.2
UPPER LIMBS		
Contusion	51	11.5
Abrasion/ laceration	70	15.8
Fracture	3	0.7
Total:	124	28.0
ANTERIOR NECK, CHEST, ABDOMEN		
Contusion	35	7.9
Abrasion/ laceration	37	8.3
Fracture	5	1.1
Total:	77	17.3
POSTERIOR NECK, CHEST, ABDOMEN		
Contusion	25	5.6
Abrasion/ laceration	24	5.4
Fracture	0	0
Total:	49	11
LOWER LIMBS		
Contusion	31	7.0
Abrasion/ laceration	40	9.0
Fracture	2	0.5
Total:	73	16.5

TABLE 4.2: SERIES 2 – DISTRIBUTION OF TOTAL BODY INJURIES

4.2.2 SEVERITY OF INJURY

Results

These are illustrated in Table 4.3. A grade one injury involves one body area only, whereas a grade five injury involves all five body areas as defined in 4.2.

Grade	No. of cases	Percentage
1	103	47.2
2	71	32.6
3	29	13.3
4	10	4.6
5	5	2.3

TABLE 4.3: SERIES 2 – GRADES OF NON-GENITAL INJURY

4.2.3 DISCUSSION

Injuries to rape survivors are common with almost 40% in Series 2 sustaining non-genital injury. In the main, the survivors in this series did not offer much resistance when threatened with physical violence especially as a large number of the perpetrators were armed with a weapon. However, these survivors were still assaulted and injured, confirming the violent nature of the crime. In addition, far more violence than was needed was used in some cases.

Figures for the percentage of rape survivors with non-genital injuries from various studies are presented in Table 4.4.

Study	Year of study	City/ Country	% of survivors with body injury
Ng[63]	1969 -1971	Singapore	25.8
Everett et al[67]	1973 - 1974	Oklahoma, US	44.0
Soules et al[80]	1974	Denver, US	45.0
Hicks[2]	1975	Miami, US	16.1
Helweg-Larsen[51]	1975 1980	Copenhagen, Denmark	65.0 69.0
Tintinalli[52]	1980	Detroit, US	32.0
Cartwright et al[54]	1980 - 1982	Nashville, US	41.0
Olusanya et al[72]	1981 - 1983	Benin City, Nigeria	33.0
Rambow et al[53]	1983	Minneapolis, US	50.0
Goodyear-Smith[46]	1982 - 1987	Auckland, New Zealand	75.5
Bownes et al[64]	1983 - 1988	Belfast, N. Ireland	63.0
Ramin et al[37]	1986 - 1991	Dallas, US	49.0
Stermac et al[65]	1991 - 1993	Toronto, Canada	69.0
Muram et al [47]	1992 - 1993	Memphis, US	36.7

TABLE 4.4: SERIES 2 – COMPARISON OF BODY INJURIES FROM OTHER CENTRES

It is apparent from the figures that the present series falls into the lower end of the range. Most of the studies listed above are from centres that have specially appointed sexual assault treatment clinics. These clinics have a multidisciplinary approach and doctors that are well trained and experienced in the field of sexual assault. The centres in the US, which have their origins in the 1970's, generally, have a gynaecologist as the appointed team leader.

The MLC in Hillbrow was established in 1992, and the majority of the doctors providing a service in the clinic were relatively inexperienced, the author included. In the author's experience, working in the MLC would not have been the first preference of the 'older' DS. It is the author's opinion that the number of injuries from the present series is underreported. It is felt that the appearance, significance and pattern of injuries were not recognised by the attending doctors. The DS may have felt that injuries were too minor or insignificant to warrant description or documentation. A report from the US published in1969 reflects a similar attitude.[39]

This state of affairs may reflect a lack of understanding and expertise on the part of the DS. It is the author's opinion that there is a definite lack of training for DS in this aspect of their work.

Apart from continued in-service training for DS, standardised acceptable protocols for management of the rape survivor need to be established. These protocols should be available in all clinics in SA that see rape survivors.

By expanding the base of knowledge of medical personnel, it is hoped that patterns of injury and their causation are more easily recognised by attending health care workers. An article in the Journal of the American Medical Association noted in 1992, that as doctors fail to recognise injuries caused by abuse women presenting with injuries are often only treated symptomatically .[14]

Although the emphasis has been placed on the recognition of injuries, it is important to note that physical injury is not an inevitable consequence of rape. As is noted from Table 4.4, even in the specialised centres the range of survivors without injury is between approximately 25 to 80%. This fact has been emphasised in many studies.[37, 69]

There have been many studies which have tried to demonstrate predictors for violence in rape attacks.[24, 33, 34, 36, 65] The results of these studies are

equivocal, and the present study does not attempt to define predictors of violence.

The most frequent site of injury in rape attacks, as is proven by the results of Series 2, is the head/ face, followed closely by the arms. A study in Auckland, New Zealand, found the head accounted for 29.5% of injuries and the arms 26.0%.[46] In Nigeria the facial injuries accounted for 34.0% of the total body injuries[72], and in an Helsinki study injuries to the head were found in 42.0% of survivors.[48] In the US figures of 32 to 35% of cases with injuries to the head have been reported.[52, 81]

The most frequently reported types of injury in rape survivors are abrasion and contusion.[24, 37, 48, 52, 67, 72] This feature was confirmed by the types of reported injury in the present study (see Table 4.2). Similarly, studies from sexual assault centres confirm the finding of mild to moderate severity of injuries (79.8%) in the present study.

REFERENCES

73. Langlois NEI, Gresham GA. The aging of bruises: a review and study of the colour changes with time. For Sci Int 1991; 50: 227-238.
74. Shepherd JP, Al-Kotany MT, Subadan C, Sculley C. Assault and facial soft tissue injuries. Br J Plast Surg 1987 Nov; 40(6): 614-619.
75. Huang V, Moore C, Bohrer P, Thaller SR. Maxillofacial Injuries in Women. Ann Plast Surg 1998 Nov; 41(5): 482-484.
76. Fisher EB, Kraus H, Lewis Jr VL. Assaulted women: maxillofacial injuries in rape and domestic violence. Plas Recons Surg 1990; 86(1): 161-162.
77. Ligthelm AJ, van Niekerk PJ. Comparative Review of Bitemark Cases From Pretoria, South Africa. J Forensic Odontostomatol 1994 Dec; 12(2): 23-29.
78. Furness J. A general review of bite-mark evidence. Am J For Med Path 1981 Mar; 2(1): 49-52.
79. Norrlander AL. Comment on "The Past and Present Legal Weight of Bite Marks as Evidence" [letter]. Am J For Med Path 1996; 17(4): 352-354.
80. Soules MR, Stewart SK, Brown KM, Pollard AA. The Spectrum of Alleged Rape. J Reprod Med 1978 Jan; 20(1): 33-39.
81. Smikle CB, Sorem KA, Satin AJ, Hankins GDV. Physical and Sexual Abuse in a Middle-Class Obstetric Population. South Med J 1996 Oct; 89(10): 983-988.

Chapter 5: GENITAL INJURY

One of the main objectives of the medicolegal examination for rape survivors and rape homicide victims is the collection of medical evidence to assist in the investigation process. The collection of medical evidence not only includes the physical collection of vaginal swabs and smears but also the documentation of injuries, specifically genital injuries.

Genital injury also presents patterns of injury in cases of forced sexual intercourse. To enable practitioners to formulate opinions on the manner of causation of injuries these patterns need to be described.

It is of utmost importance that in cases of sexual assault the examiner is experienced in the performance of genital examinations and in the gathering of evidence. The subtle points of trauma in rape cases demand experience in interpretation and in potential court testimony. There is wide variation in what lesions are described as trauma and in how diligently they are sought by examiners. This non-conformity needs to be addressed and standard acceptable practices established for all health care workers examining rape survivors. Any signs of trauma, especially genital, no matter how slight are significant and should be documented.

Recent advances in clinical forensic medicine have provided aids to documenting genital injuries. These include the use of toluidine blue dye enhancement of epithelial injuries and the use of the colposcope. Unfortunately neither of the two techniques is available at present to the author, and is not widely used in SA. Use of toluidine blue dye enhancement in SA began in early to mid 1998 in the Northern Cape. A course has been structured for the training of forensic nurses with the help of an expert from the US. This training includes the use of toluidine blue dye in the identification of injuries.

A comparison of the genital findings for both series confirms that the use of additional force and violence in homicide cases extends to injury to the genitalia.

5.1 SERIES 1: DECEASED VICTIMS

External genital injuries were described for the labia majora and minora, the introitus/ hymen, vestibule and posterior fourchette.

Internal genital injuries included those to the vagina, cervix, uterus, ovaries, bladder and pelvic walls.

The category of anal region injuries included the perineum and the anal verge / anus.

An additional category of foreign objects was included for this series.

A total of 33 (55.9%) victims presented with genital injuries in this series.

5.1.1 EXTERNAL INJURIES

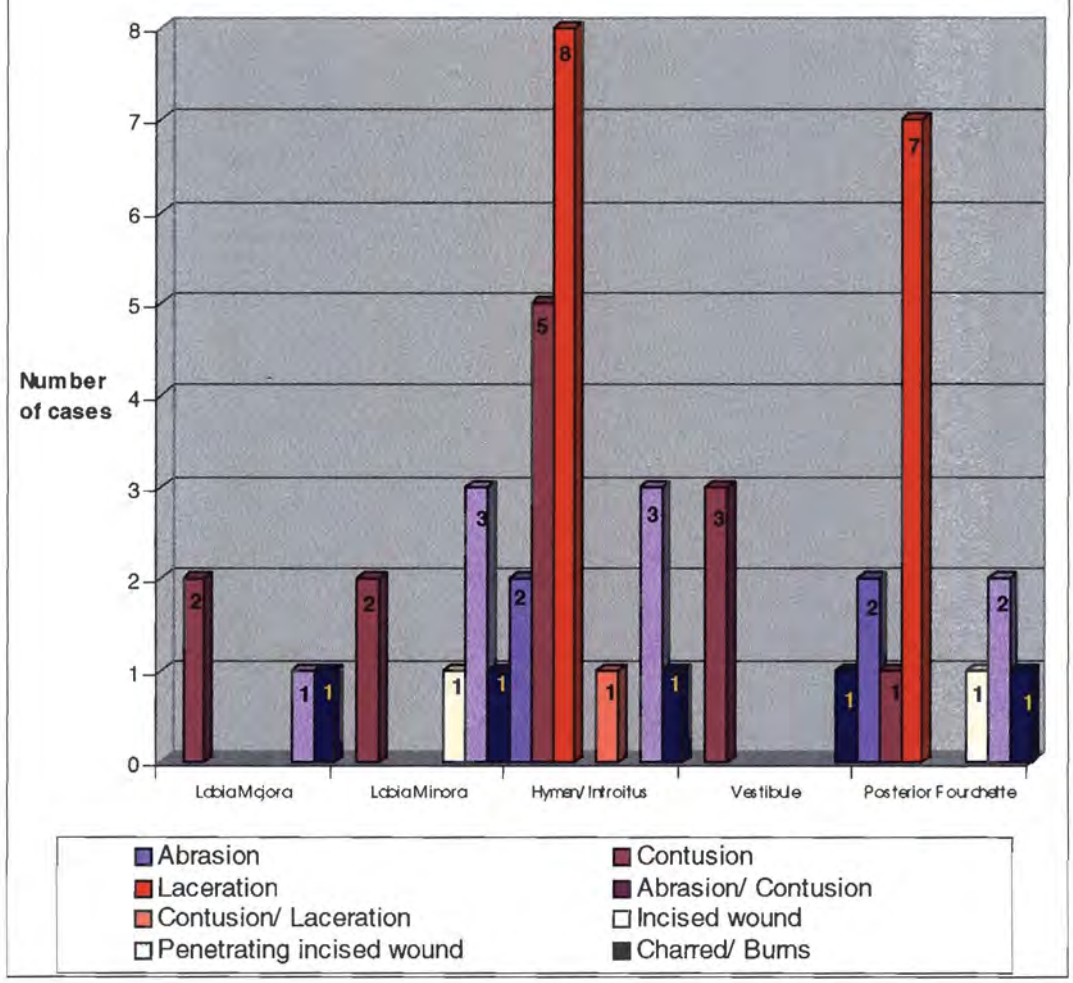
Results

Of the 59 rape homicide victims 24 (40.7%) had evidence of injury to the external genitalia. The hymen/ introitus was the area with the highest number of injury (20) and with the greatest variety of injury (6). The second region with the most number of injuries was the posterior fourchette with six different type of injury being recorded in 14 cases.

The types of injuries recorded included contusion, laceration, abrasion, penetrating incised and incised wounds, and charring/ burns. Of the various injuries, recorded contusions were most numerous to the Labia majora and vestibule, lacerations to the hymen/ introitus and posterior fourchette, and penetrating incised wounds to the Labia minora.

The findings are presented in Figure 5.1.

Figure 5.1: SERIES 1 - Total injuries External Genitalia (n=59)



Discussion

Charring was present to all regions of the category external genitalia in one case (*No. 3*). This case was a 4 year old coloured child, who was raped and then smothered by a 46 year old coloured vagrant. She knew him as a well-known "uncle" in the area. He set the deceased's body alight after murdering her to try to destroy the evidence. He was found guilty of rape and murder and sentenced to life imprisonment.

5.1.2 INTERNAL INJURIES

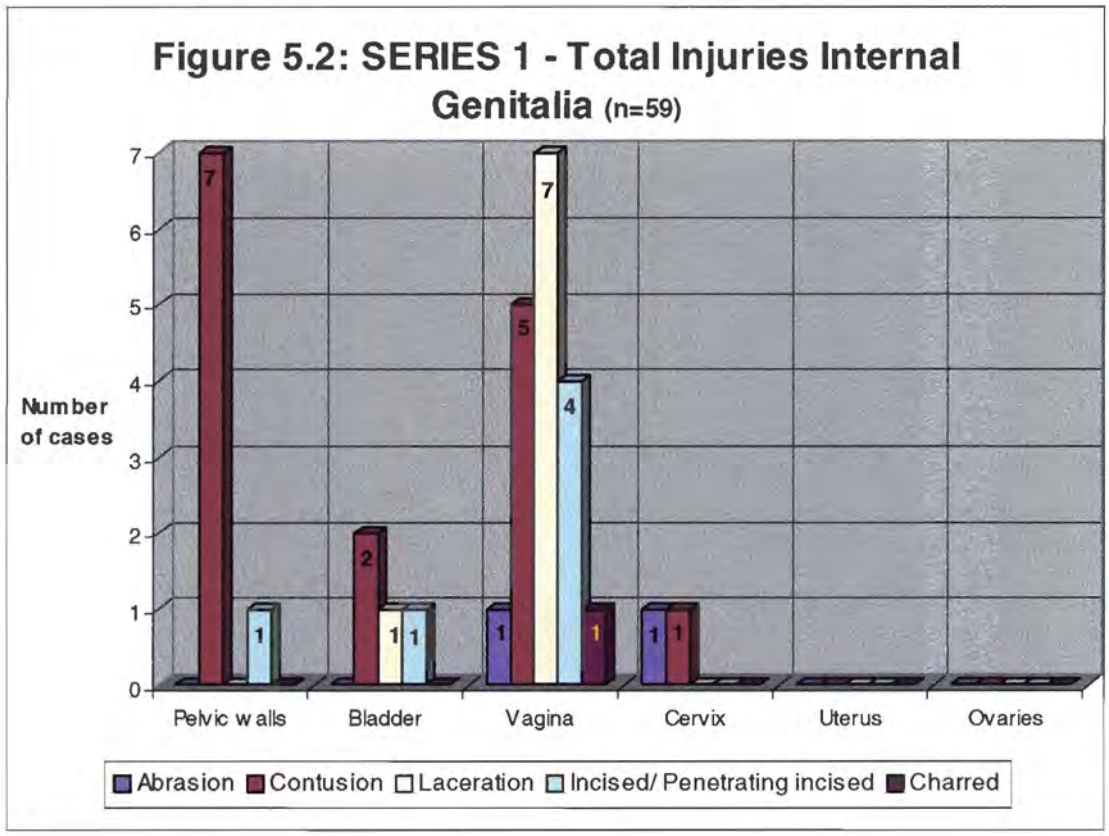
Results

Internal injuries were evidenced in 33.9% of cases. There were no recorded injuries to the uterus or ovaries to any rape homicide victims. Two of the decedents were pregnant at the time of their murders, and the foetuses of seven and twelve weeks gestation were uninjured in both cases.

Contusion was the highest recorded type of injury sustained with 15 cases, most frequently of the pelvis walls. The vagina sustained the highest number of injury as well as the most type of injury. Laceration to the vagina was the most numerous (seven cases).

A particularly heinous injury was that of penetrating incised wounds to the vagina in four cases, one of which included the bladder and terminated against the sacrum, a wound track of at least 15cm.

The number and range of internal genital injuries are presented in Figure 5.2.

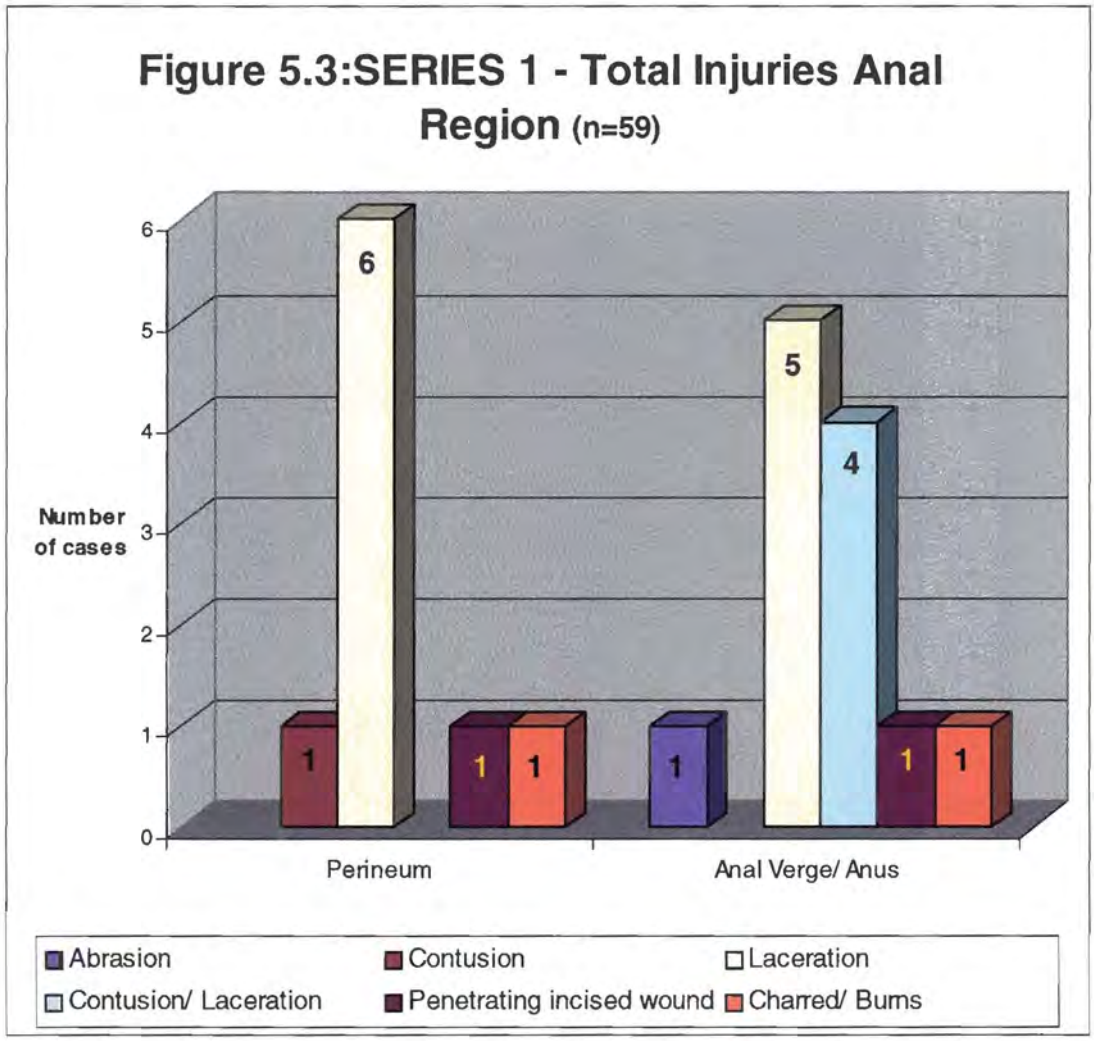


5.1.3 ANAL REGION INJURIES

Results

The total number of cases with evidence of injury to the anal region was 15, with a total number of injuries recorded as 21. The anal verge/ anus presented with five types of injury, of which laceration was the most prominent, followed by the combination of laceration/ contusion. Laceration was also the most frequent injury to the perineum.

The range of injuries to the anal region is presented in Figure 5.3.



5.1.4 FOREIGN OBJECTS

Results

There were eight cases in which foreign objects were found in the genitalia of the decedents at autopsy and three cases where the objects found at the scene were obviously the weapons used to cause the genital injuries.

In three cases, pieces of grass were present in the vagina and in four cases, foreign hairs were found in the vagina. In one case a broken bottle neck was still present lodged in the vagina and in one case a 23cm piece of black

conduit pipe had been forced into the vagina and perforated into the abdomen. These last two cases showed evidence of extreme violence with massive overall injuries. *Case 49*, in addition to the broken bottle, had an avocado pip inserted into the rectum.

The three cases which displayed weapons at the scene used to inflict genital injuries included a plank of wood, which had caused a 6cm perineal laceration (*Case 33*), a carving knife (*Case 38*), and a fishing knife (*Case 59*).

Discussion

The accused in *Case 59*, pushed the decedent's body approximately 400m in a shopping trolley after murdering her, to the railway tracks where he laid the body across in an attempt to disguise the murder. Unfortunately for him, it was Christmas day and no trains ran on that particular line that day. The accused is arrested and in prison awaiting trial.

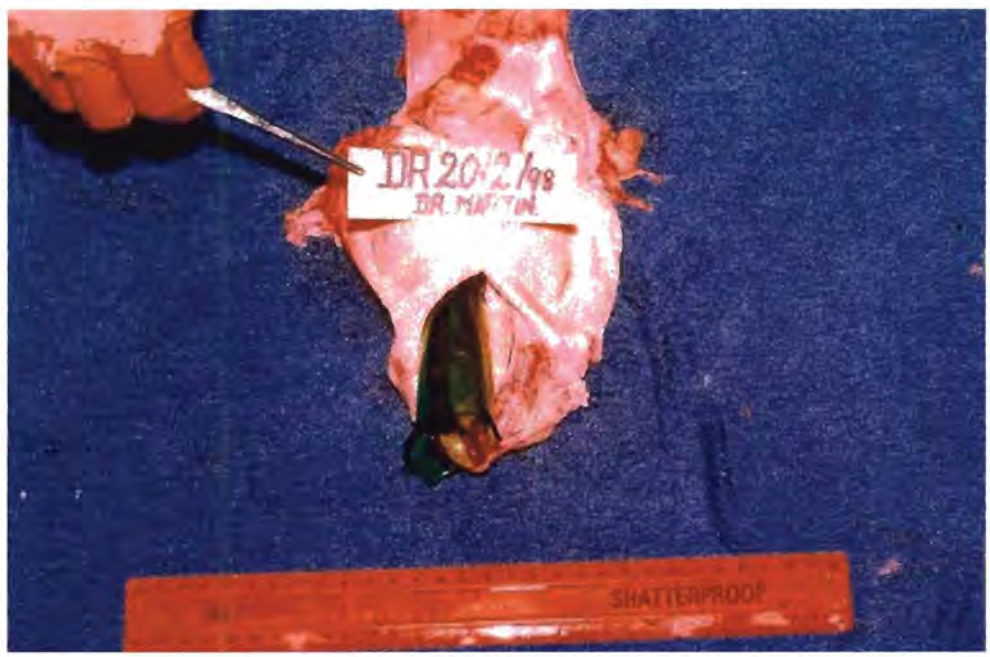


FIGURE 5.4A: SERIES 1 – CASE 49, BROKEN BOTTLENECK IN VAGINA.

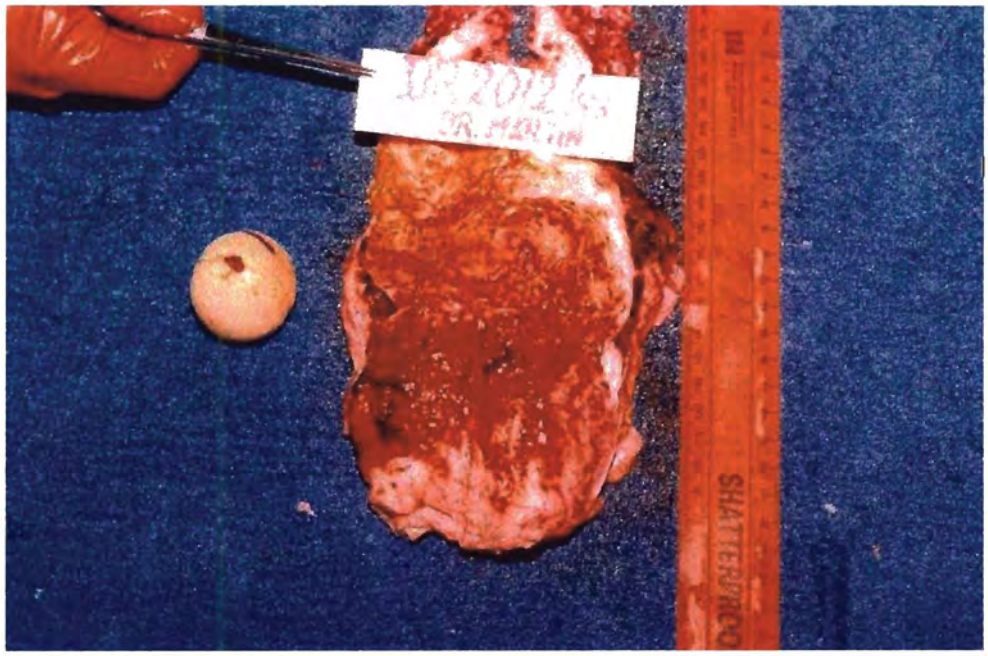


FIGURE 5.4B: SERIES 1 – CASE 49, AVOCADO PIP WITH RECTAL INJURY.

FIGURE 5.5A: SERIES 1 – CASE 51, PLASTIC PIPE IN VAGINA.

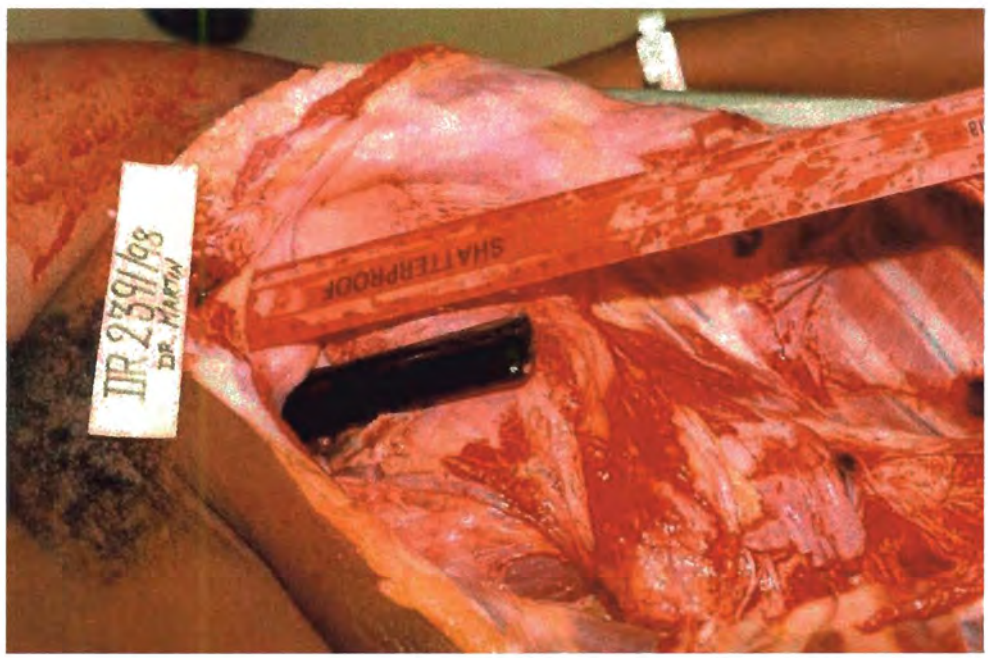


FIGURE 5.5B: SERIES – 1 CASE 51, PLASTIC PIPE IN-SITU IN ABDOMEN.

FIGURE 5.5C: SERIES - 1 CASE 51, REMOVED PLASTIC CONDUIT PIPE.

5.1.5 DISCUSSION

The majority of the victims in the present series presented with genital injuries that could be categorised as minor to moderate 24 out of 33 with genital injury. If the genital injuries in these cases were the only injury sustained during the attack, they would not have required hospitalisation. The genital injuries in the nine cases that showed severe genital injury, four of which were children, may have proved fatal in the absence of any other injury. The adults, who showed severe genital injury, also had severe body injuries, and the attack on the victim appeared to be frenzied. In one case, it is known that the decedent is the mother-in-law of the accused who is separated from his wife and for which he blames his mother-in law.

It is postulated that these offenders would fall into the category of sexual sadists. This is a sub-type of paraphilia as classified in the DSM-111-R[82], and includes paraphilic rape and lust murders. Money[83] describes sexual sadists as people who find physical or mental suffering of victims intensely sexually arousing. Sexual sadism is by definition an antisocial disorder not an illness.

Rapists have been defined into three broad categories: the power rapist, the anger rapist and the sadistic rapist.[29] Of these three categories the most dangerous type of rapist is the sadistic rapist and this type accounts for approximately 5% of rapes, often with the victims not surviving the attack.[29] In the defining of rape and rape homicide as crimes of violence, with expression of power, anger, domination and hatred, the sexual nature of the crime should not be forgotten. Sex is the weapon.

The majority of sex offenders are not psychiatrically ill. In a study of a group of male offenders referred for psychiatric evaluation by the courts (a select sub-group), only six suggested an organic mental disorder. The most common diagnosis was schizophrenia[84] and none were charged with murder.

In Deming et al's[23] study on fatal sexual assaults 63.4% of the victims had evidence of genital injury. In 25, the injury was to the vagina or vulva and, in one, the injury was to the anal region. The commonest injury was laceration. Foreign objects were used to cause injuries in five cases and included broken tree branches, a baton, a chair leg and a torch. In one case cigarette burns were found on the vulva.

Fatal anorectal injuries from sexual activity remain rare. A study over ten years describes four cases, three of which were adults, two females and a male. The deaths of the females were both due to injuries caused by "fisting" by male partners.[85] The severe anorectal injuries found in the present series all appear to be a result of foreign object insertion.

Some of the genital injuries found in the victims from the present series are illustrated in the following figures.

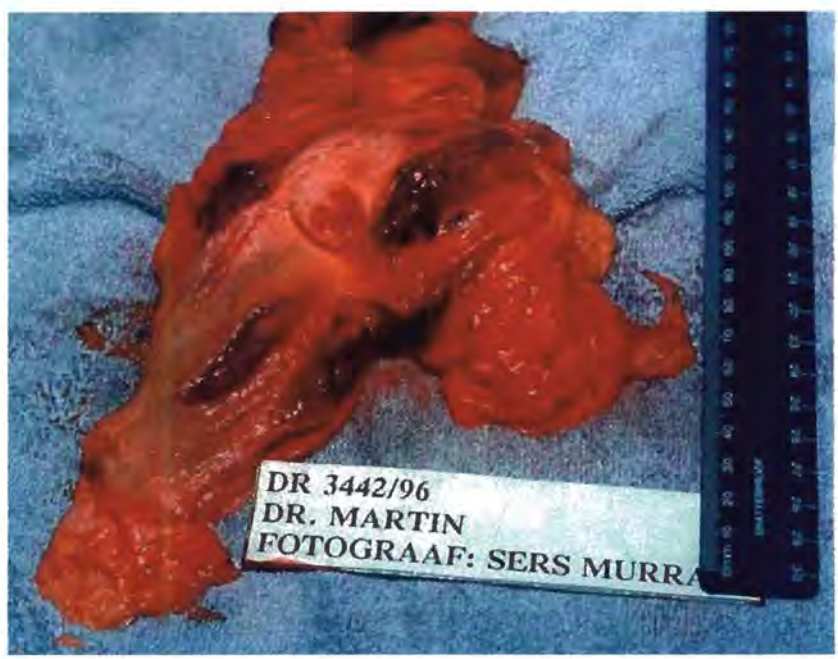


FIGURE 5.6: SERIES 1 – CASE 8, PENETRATING INCISED WOUNDS OF THE VAGINA.

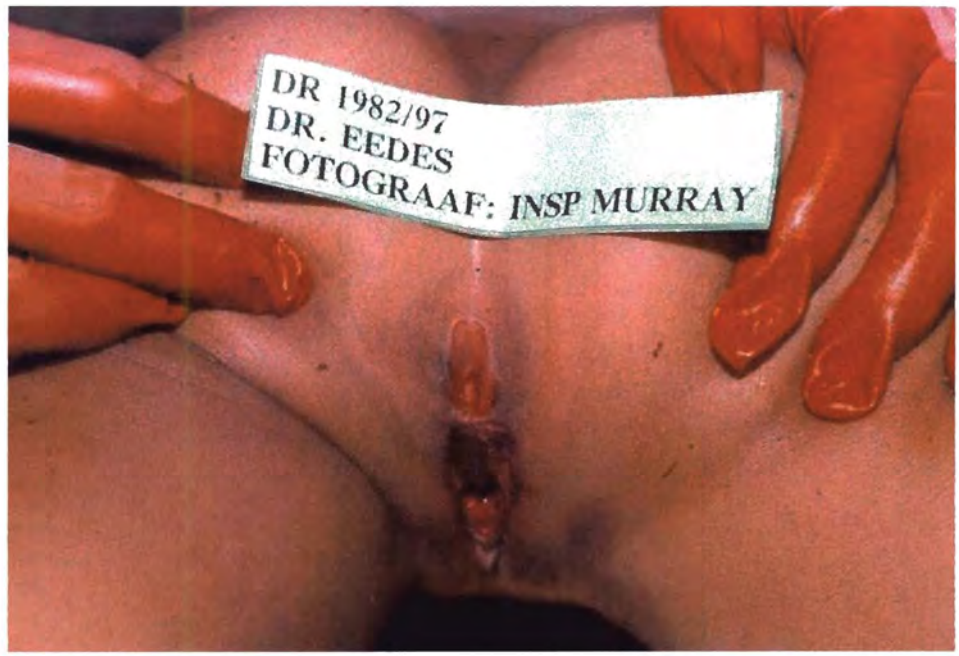


FIGURE 5.7: SERIES 1 – CASE 19, LACERATION OF POSTERIOR VAGINAL WALL INTO PERINEUM

FIGURE 5.8: SERIES 1 – CASE 26, CONTUSION OF VESTIBULE AND VAGINA, WITH HEALING LACERATION OF POSTERIOR FOURCHETTE

FIGURE 5.9: SERIES 1 – CASE 30, CONTUSION OF INTROITUS, WITH LACERATION OF POSTERIOR FOURCHETTE.

FIGURE 5.10: SERIES 1 – CASE 31, PERINEAL LACERATION WITH EXPOSURE OF GLUTEAL MUSCLES

FIGURE 5.11: SERIES 1 – CASE 33, LACERATION OF THE VAGINA WITH PERINEAL EXTENSION

FIGURE 5.12: SERIES 1 – CASE 59, MULTIPLE PENETRATING INCISED WOUNDS OF THE ANUS WITH COMMUNICATION INTO THE VAGINA

5.2 *SERIES 2: SURVIVING VICTIMS*

External injuries include those to the labia majora and minora, the hymen, the vestibule and the posterior fourchette.

Internal injuries in this series did not include the uterus, ovaries or pelvic walls for obvious reasons, and only documents injuries to the vagina.

Anal region injuries are those to the perineum and anal verge.

In 37.7% cases there was evidence of injury to the genitalia, with some cases having injury of more than one area.

5.2.1 EXTERNAL INJURIES

Results

These are tabulated below.

Region	% of cases with injury (n=220)	% of total cases (n=584)
Labia majora	8.2	3.1
Labia minora	23.6	8.9
Hymen	24.1	9.0
Vestibule	18.7	7.0
Posterior fourchette	16.4	6.2

TABLE 5.1: SERIES 2 – EXTERNAL GENITAL INJURIES

Contusion accounted for the majority of the injuries in all the regions of the external genitalia; except for hymenal injures where 16.8% of the injuries sustained were lacerations.

5.2.2 INTERNAL INJURIES

Results

Injuries to the vagina were found in 7.7% of the cases with evidence of genital injury. In ten cases, this injury was contusion and in seven cases, there were vaginal tears.

One case of threatened abortion following rape was noted in the present series. This case had been accompanied by physical beating.

Discussion

An interesting phenomenon was noted in this series and throughout the author's experience of examining rape survivors (approximately 2000 patients). Vaginal bleeding was present in 5.8% of the total cases in Series 2, and it was noted consistently throughout the author's clinical career. This vaginal bleeding could not be explained by a current menstruation or from injury. It is the author's opinion that the rape event induced a menstrual bleed in these cases, although this could not be confirmed. The author enquired, at the time, from the gynaecology consultants at the Johannesburg General Hospital who could not offer any explanation. In addition, the literature consulted for this dissertation has not mentioned a similar finding.

5.2.3 ANAL REGION INJURIES

Results

Region	% of cases with injuries (n=220)	% of total cases (n=584)
Perineum	49.5	18.7
Anal verge	0.5	0.2

TABLE 5.2: SERIES 2 – ANAL REGION INJURIES

The majority of the perineal injuries were contusion (45.9%), with eight cases sustaining laceration of that area. The one case that showed evidence of an anal injury presented with contusion of the anal verge.

5.2.4 FOREIGN OBJECTS

In ten of the cases, there was evidence of a foreign object, these included paper, twigs, cigarette butts and plastic.

5.2.5 DISCUSSION

5.2.5.1 Causation

Genital injuries are sustained because of the amount of force used by the perpetrator in an unwilling participant. Without the prelude of foreplay, which prepares the vagina for receiving the male organ, it remains non-lubricated and undilated. Additionally, because this is an act of rape and not consenting sexual intercourse the anatomy of the genital organs changes due to the contraction of the pelvic muscles.

The average vagina in its collapsed state is approximately 7.5cm long. [86] With sexual stimulation the upper vagina expands to three times its resting state and lengthens by up to 20%[28] and will usually accommodate the average erect penis (16cm in length, 4cm in diameter, 11cm in circumference). [86] At childbirth, the vagina dilates to accommodate the size of the presenting head.

With rape, none of these applies and with contraction of the pelvic floor muscles, the vagina and external soft tissues are lifted from their usual position. This accounts for the presence of the majority of the evidenced injuries over the posterior aspects of the genitalia.

Vaginal injuries

Dilation, overstretching, and tearing of the tissues cause injuries to the vagina. The hymen may or may not be injured when the vaginal opening is dilated.[87] Sexual organ disparity may cause laceration to the vagina and perforation in extreme cases e.g. children and the elderly. Laceration may also be caused when a foreign object is forcefully thrust into the vagina.

Injuries to the vagina during normal intercourse are not frequent occurrences but do occur. These injuries are usually minor and generally occur at first intercourse.[88] More serious vaginal injuries tend to occur in nulliparous

women that are used to sexual intercourse. The predisposing factors in vaginal lacerations tend to be multifactorial, but may include: elevation of the pain threshold due to intense sexual stimulation; intoxication; excessive activity; clumsiness; variant positions; pregnancy or postpartum state; infection; and recent surgery.[88]

A case report in the literature describes a case of vaginal evisceration following a rape attack in a young previously healthy woman.[89] The vaginal lacerations were proven to have been caused by the penis of the assailant, from the history obtained, as well as spermatozoa seen on the peritoneal aspirate. This is the first case report of vaginal evisceration following sexual intercourse in a woman with no anatomic defects.[89]

Anorectal injuries

Injuries to the anus and rectum may similarly occur during normal sexual intercourse. The anal canal (1.5 to 3cm in length) can usually only comfortably dilate to 3cm because of its muscular sphincters. Once past the sphincter however, the rectum can comfortably accommodate an erect penis.[86] Injuries to the anal verge may occur with disparity in size, the use of foreign objects and fists.

An unusual type of anorectal injury is described in a case report of a male prisoner who presented with a rectal haematoma following a sexual assault.[90] The haematoma which was surgically evacuated (800ml) re-bled and further evacuation was necessary, no laceration of the mucosa was noted at operation.

Trauma to the rectum is usually caused by insertion of a foreign object or fist into the rectum rather than by penile penetration during consenting sexual activity. In a rape attack however, rectal injuries can be caused by forceful penile penetration.

The majority of anorectal injuries in children are caused by sexual abuse whereas the majority of anorectal injury sustained by adults is due to penetrating injuries of the abdomen e.g. stab and gunshot wounds.[91]

The very low incidence of anal injury in the present series (1 case) is probably under reported. Several authors have noted that these injuries are often missed if not specifically looked for. It is the author's experience that rape survivors will not volunteer that they have been sodomised during the rape. Indeed, once the author started specifically asking this question with the development of the rape protocol, the incidence of attempted or completed anal penetration during rape was approximately 20%. The author is also of the opinion that anal injuries are often missed at autopsy.

5.2.5.2 Incidence

The reported incidence of genital injury in rape survivors varies from 10 to 87%. [92] This incidence includes, however, studies which have employed a colposcope for detection of genital injuries. The incidence without the use of a colposcope is much lower. A study from Denver (US) in 1974 found 13% of rape survivors with genital injury, described as hymenal tears, vaginal lacerations and perineal echymoses.[80] In Dallas County (US), a study of pregnant rape survivors found only 5% with genital injury compared to their control study group (21%) showing evidence of genital trauma.[93] A study conducted in 1983 at the Hennepin County Medical Centre (US) found 10% of rape survivors with genital injury.[53]

Two studies from Canada showed incidence rates of 39.0% in 1990 from Vancouver[94], and 45.5% from 1984 to 1995 in Toronto.[95] Neither of these studies employed colposcopic examination of the genitalia. A study from Northumberland (England) revealed 27.0% of rape survivors with genital injury, most of which were classified as minor.[92]

The results from the present series (37.7%) fall within the previously reported range of incidence of genital injury. Most of the above studies report the highest number of injuries are sustained to the posterior fourchette and introitus both in women who have had previous intercourse experience and who have not. In a large study in California (US) which examined all rape survivors from January 1985 to December 1993, Slaughter et al[96] reported that 213 out of 311 survivors had evidence of genital trauma. All patients in this study had colposcopic evaluation of their genitalia. The commonest site of trauma was the posterior fourchette seen in 194 cases, with laceration being the most frequent injury.[96] Tearing of the hymen was significantly more frequent in the younger age group. Another pattern of injury that was noted in Slaughter et al's study was that hymenal, hymenal-vaginal, or vaginal lacerations were frequently associated with reported vaginal bleeding following assault.[96]

It is the author's opinion that the high incidence of perineal injuries in the present series (18.7%) may be due to incorrect anatomical description by the examining doctor. During 1992 at the MLC there were between five and six doctors performing the examinations in the clinic, the author included. At this time regular in-service training had not yet commenced and there was no standardised protocol available. There was also slight resistance by the doctors to change their methods of examination and documentation of injury. Often the prevailing thought was that the less that was documented, the fewer questions were asked in court and one could escape from the court "unscathed". This feeling of being able to escape from court testimony was due, in the author's opinion, to the lack of knowledge, training and expertise on the part of the examining doctors. When the author left DS practice in 1996, there were still unfortunately, one or two doctors in whom this attitude prevailed.

5.2.5.3 Improved techniques

The recent years has seen the emergence of two techniques employed to assist in documentation of injuries, colposcopy and toluidine blue dye enhancement.

Colposcopy

Colposcopy, although widely used in gynaecological practice, is seldom employed in clinical forensic work. This was noted as early as 1981 when an article was published in the American Journal of Forensic Medicine and Pathology detailing a six year study from Brazil.[97] The author, a gynaecologist, was also the Chief Medical Examiner for a city in São Paulo, Brazil. The author noted that some difficulty was often encountered in hymenal examination in equivocal cases, and thus started using the colposcope. Of the 500 patients in the study 310 (62.0%) had ruptured hymen. The study evaluates the use of the colposcope in cases of incomplete hymen rupture and in fimbriated hymen. In 23.3% of cases with an equivocal diagnosis on non-aided examination, a positive diagnosis of incomplete rupture could be made following colposcopic examination. Similarly, 43.6% of dubious cases in fimbriated hymen were clarified. The author states that the colposcope is of most value in the examination of children.[97] Overall, the colposcopic examination aided in 11.8% of the total 500 cases, and the author finds its use irreplaceable.[97]

The difficulty in examining the hymen, especially in children and chronic child abuse cases, was highlighted by Underhill et al in 1978.[98] A very practical suggestion to aid in the examination of the hymen, which could be applied in SA, was put forward by Kille, [99] who suggested the use of a Foley's catheter. The catheter is inserted beyond the hymen, the bag inflated, and traction gently applied which then affords a panoramic view of the hymen.

A study in 1984 aimed to demonstrate the presence of microtrauma to the vaginal mucosa following vaginal intercourse.[100] The authors examined 18 volunteers within six hours of vaginal intercourse and compared the findings of examination without and with the aid of the colposcope. In the study, trauma was defined as areas of hyperaemia and microabrasions with or without bleeding. Before vaginal intercourse, 11.1% of patients had positive findings, which increased to 61.1% following intercourse. These injuries were not localised to any particular region.

Slaughter and Brown reported that colposcopy increased the reporting rate of injury to the cervix following rape, which had not previously been reported in the literature.[101]

In a study over a period of six years, Slaughter et al further reported that, colposcopic examination of 131 patients within 48 hours of rape, 87.0% showed evidence of genital injury.[102] The majority of these injuries were in the region of the posterior fourchette and consisted of lacerations, abrasions, echymosis and swelling. The findings in Series 1 of the present study correlates very well with this finding.

The localised findings in rape survivors to the posterior fourchette can be explained by its anatomic location. The posterior fourchette is the anatomic site of attachment to the perineal body and when forceful stretching is applied it is the point of greatest stress.[103] It is also the first point of contact of the penis with the vagina.[26] It is possible that the reports in the literature which record incidence rates of genital injury as low as 13%[80] (1974) is due to those examiners' attention to the hymen, and not the fourchette and perineal area.

It is the author's opinion that some of the differences in the findings of genital injuries between Series 1 and 2 in the present study are due firstly to the inexperience of the examining doctors, the author included (as previously discussed), and secondly to different interpretation by different examiners. In Series 1, the author examined approximately 20% of the 584 cases, whereas in Series 2 the author examined 70% of the cases.

This increased documentation of genital injuries with the use of the colposcope has been repeated in two further recent studies.[104, 105]

Toluidine blue dye

The use of this dye as an adjunct to visual inspection of the genitalia for microtrauma was first described in 1982. Toluidine blue dye has been used in gynaecological practice since 1963 as an aid in identifying dysplasia. The ability of the dye to stain nucleated cells, in conjunction with the absence of nucleated cells in the surface layer of the vulva, led to the belief that the dye would be helpful in localising lacerations.[103] The results of this study led the author's to postulate that the use of toluidine blue would be of value in identifying injuries independent of the examiner's skills.

Further studies replicated the dye's ability to demonstrate genital injuries that were not visible to the naked eye, and it has proved useful in the examination of rape survivors. A study from Baltimore (US) showed an increased detection rate from 4% to 28% in an adolescent sample group.[106] An increase from 4% to 58% was recorded in an adult rape survivor study group.[107]

The authors in the adult study above noted that toluidine blue did not stain old episiotomy scars, lacerations stained as clear linear marks and thus there was no confusion with carcinoma or vulvitis, and it was very effective in the black population.[107]

Another advantage of the toluidine blue dye technique, apart from its cost efficient ease of use, is that it does not interfere with the recovery of DNA from seminal fluid.[108]

The test, however, only enjoys limited use in the US and Europe, the main reason being a general lack of knowledge in its application in rape examinations.[108]

REFERENCES

82. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Washington: APA, 1987.
83. Money J. Forensic Sexology: Paraphilic Serial Rape (Biastophilia) and Lust Murder (Erotophonophilia). Am J Psychother 1990 Jan; 44(1): 26-36.
84. Bonheur HH, Rosner R. Sex Offenders: Diagnosis, Organicity, and Intelligence. J Forensic Sci 1981 Oct; 26(4): 782-792.
85. Orr CJ, Clark MA, Hawley DA, Pless JE, Tate LR, Fardal PM. Fatal Anorectal Injuries: A Series of Four Cases. J For Sci 1995 Mar; 40(2): 219-221.
86. Schiff AF. Examination and Treatment of the Male Rape Victim. South Med J 1980 Nov; 73(11): 1498-1502.
87. Eckert WG, Katchis S, Donovan W. The Pathology and Medicolegal Aspects of Sexual Activity. Am J For Med Path 1991; 12(1): 3-15.
88. Elam AL, Ray VG. Sexually Related Trauma: A Review. Ann Emerg Med 1986 May; 15(5): 576-584.
89. Haney AF. Vaginal Evisceration after Forcible Coitus with Intraabdominal Ejaculation. J Reprod Med 1978 Oct; 21(4): 254-256.
90. Chen YM, Davis M, Ott DJ. Traumatic Rectal Haematoma Following Anal Rape. Ann Emerg Med 1986 Jul; 15(7): 850-852.
91. Black CT, Pokorny WJ, McGill CW, Harberg FJ. Ano-Rectal Trauma in Children. J Pediatr Surg 1982 Oct; 17(5): 501-504.
92. Bowyer L, Dalton ME. Female victims of rape and their genital injures. Br J Obstet Gynaecol 1997 May; 104: 617-620.
93. Satin AJ, Hemsell DL, Stone IC, Theriot S, Wendel Jr GD. Sexual Assault in Pregnancy. Obstet Gynecol 1991 May; 77(5): 710-714.
94. Wiebe ER. Genital injuries in sexual assault victims [letter]. Can Med Assoc J 1991 Mar;144(6): 644, 647.
95. Biggs M, Stermac LE, Divinsky M. Genital injuries following sexual assault of women with and without prior sexual intercourse experience. Can Med Assoc J 1998 Jul; 159(1): 33-37.

96. Slaughter L, Brown CRV, Crowley S, Peck R. Patterns of genital injury in female sexual assault victims. Am J Obstet Gynecol 1997 Mar; 176 (3): 609-616.

97. Teixeira WRG. Hymenal colposcopic examination in sexual offences. Am J For Med Path 1981 Sep; 2(3): 209-215.

98. UnderhillRA, Dewhurst J. The Doctor Cannot Always Tell: Medical Examination of the "Intact" Hymen. Lancet 1978 Feb; 1(8060): 375-376.

99. Kille ML. Examination of the Hymen. Med J Aust 1978 Dec; 2(12): 568.

100. Norvell MK, Benrubi GI, Thompson RJ. Investigation of Microtrauma After Sexual Intercourse. J Reprod Med 1984 Apr; 29(4): 269-271.

101. Slaughter L, Brown CRV. Cervical findings in rape victims. Am J Obstet Gynecol 1991 Feb; 164(2): 528-529.

102. Slaughter L, Brown CRV. Colposcopy to establish physical findings in rape victims. Am J Obstet Gynecol 1992 Jan; 166(1 pt 1): 83-86.

103. Lauber AA, Souma ML. Use of toluidine blue for documentation of traumatic intercourse. Obstet Gynecol 1982 Nov; 60(5): 644-648.

104. O'Brien C. Forensic Nursing: Improved forensic documentation of genital injuries with colposcopy. J Emerg Nurs 1997 Oct; 23(5): 460-462.

105. Lenahan LC, Ernst A, Johnson B. Colposcopy in Evaluation of the Adult Sexual Assault Victim. Am J Emerg Med 1998 Mar; 16(2): 183-184.

106. McCauley J, Gorman RL, Guzinski G. Toluidine Blue in the Detection of Perineal Lacerations in Pediatric and Adolescent Sexual Abuse Victims. Pediatrics 1986 Dec; 78(6): 1039-1043.

107. McCauley J, Guzinski G, Welch R, Gorman RL. Toluidine Blue in the Corroboration of Rape in the Adult Victim. Am J Emerg Med 1987 Mar; 5(2): 105-108.

108. Hochmeister MN, Whelan M, Borer UV, Gehrig C, Binda S, Berzlanovich A, et al. Effects of toluidine blue and destaining agents used in sexual assault examinations on the ability to obtain DNA profiles from postcoital vaginal swabs. J Forensic Sci. 1997 Mar; 42(2): 316-319.

Chapter 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

Information with respect to rape in SA is very scarce in the medical literature, although many South African doctors must be treating rape survivors on a daily basis.

This thesis has highlighted the epidemiology and pathology of rape in Johannesburg, and of rape homicide in Cape Town. From this, it is evident that rape is a horrendously prolific crime in South Africa. It is obvious that the numerous governmental, as well as non-governmental, role players need to formulate a National strategy to combat the crimes, and provide appropriate care for the women and their families affected daily.

6.2 CONCLUSIONS

6.2.1 RAPE HOMICIDE IN CAPE TOWN

1. The incidence of rape homicide in Cape Town is 1.23%. This is twelve times higher than in the US and forty times greater than large European cities.
2. The majority of rape homicide victims die in or close to their homes, usually being attacked in the street or in close proximity to a Shebeen.
3. The highest incidence is amongst coloured women aged between 26 to 45 years, although the crime affects all population and age groups. The age range in this study was from 3 to 83 years.

4. The majority of victims (68.0%) had alcohol in their blood at the time of death. This may reflect women under the influence as being easy targets.
5. The majority of the victims were unemployed, but the occupational category at highest risk was sex workers.
6. Perpetrators when caught are usually successfully prosecuted, and the medical evidence is often crucial.
7. Of the perpetrators with a relationship to the victim 18.6% were intimate partners and 3.4% were family members. Strangers accounted for 16.9%.
8. Most rape homicides are perpetrated by assailants from the same ethnic group as the victim, and usually only one perpetrator is involved.
9. There is no seasonal pattern to rape homicide, but these crimes are usually committed over the weekends between 18h00 to 06h00.
10. The majority of cases include mechanical asphyxiation as a cause of death, with most also exhibiting signs of blunt trauma. The level of violence used in many cases is severe.
11. The clothing of victims is removed, dislodged or damaged in 88% of cases.
12. Rape homicide victims present with the highest number of external injuries on the head, neck and upper limbs, with a large percentage of victims showing evidence of internal neck injuries.
13. Fingernail imprint abrasions/ contusions of the neck, bites and upper limb defence wounds should be regarded as highly suspicious of a sex-related attack.
14. More than half the victims had evidence of genital injury, with injuries to the introitus and posterior fourchette seen frequently, and presenting mainly as lacerations. These injuries could be considered non-severe in 70% of cases.
15. Internal genital injuries were mainly contusions and lacerations, a few of which were particularly vicious, caused by insertion of foreign objects. Four cases had penetrating incised wounds to the internal genitalia.

16. There was injury to the anal region in 15 cases, the majority of which were lacerations.

6.2.2 RAPE IN JOHANNESBURG

1. In 1992, 2.4% of all reported rape in SA occurred in Johannesburg, representing an incidence of 165 per 100 000 women.
2. Most rapes occurred in the densely populated inner city on women in the 17 to 35 year age group.
3. African assailants (77.9%) perpetrated the majority of rapes on African women (71.2%).
4. A very high incidence of stranger rapes were recorded (80.1%), but this may not be a true reflection due to a limitation in the study design.
5. Two or more rapists were involved in 33.7% of the attacks.
6. As is reported elsewhere, the incidence of rape was highest during the summer months, over weekends and at night.
7. Rape does not have to present with evidence of body injury. Only 37.3% of survivors in this study had evidence of non-genital injury. This figure is considered, however, to be low, due to under-reporting by the examining doctors. Most rape survivors are threatened with physical violence.
8. Non-genital injuries when present, are most commonly found on the face and upper limbs. The majority of these injuries are blunt force injuries i.e. contusion, abrasion and laceration, and can be considered minor to moderate, not requiring hospitalisation.
9. Just over a third of survivors had evidence of genital injury. by far the majority of injuries were recorded as perineal injuries, with those to the introitus, labia minora, vestibule and posterior fourchette being equally evident. Most of these injuries were contusions, except for those to the hymen, which were commonly lacerations. This high figure for perineal injury was felt to be incorrectly described as such by the examining doctors, and probably represents posterior fourchette injury.

10. No techniques to aid visualisation of injuries, which may have increased the incidence of evidenced injuries, were employed during the examination of rape survivors

6.3 RECOMMENDATIONS

6.3.1 FORENSIC PATHOLOGY SERVICES.

Not withstanding the fact that the rape homicide rate for the area served by SRML is 1.23%, it is the author's opinion that this probably does not include all the fatal sexual assaults for the study period. The author is aware of at least one case that was not identified on admission to SRML, as a rape homicide. The pathologist was only made aware of the fact when evidence was presented during the subsequent court case.

The following recommendations apply to all doctors who provide a forensic pathology service, which includes DS.

- A scene of crime investigation by the forensic examiner is essential, with collection of appropriate samples.
- All female homicide cases should be examined thoroughly for evidence of sexual assault, with collection of specimens. Exceptions to this could be made in cases where there is a clear history and absolutely no suspicion of sexual assault.
- Decedents should not be undressed before the forensic examiner has seen them, noted any irregularities and collected any evidence.
- The investigating officer must be present at the autopsy.
- If possible, one pathologist should perform all autopsies in these cases to ensure continuity. This, however, does not preclude other pathologists and a standard procedure should be introduced in all departments.
- The autopsy must include a bloodless dissection of the neck and thorough examination of the genitalia, as described.

- Photographs of wounds should be taken.
- Specimens must be taken before commencement of the autopsy.
- These specimens should include:
  - → vaginal swabs and slides
  - → swabs and slides from any other appropriate area i.e. Oral, anal, rectal, visible seminal fluid stains etc.
  - → combings of the pubic hair
  - → pubic and scalp hair for control samples
  - → blood for control DNA
  - → any foreign hairs noted on the body

  All specimens should be clearly labelled with a reference number, date, time and the site of collection. These are usually placed into a "Crime Kit" container, which is provided by the Forensic Science Laboratory.

  Additional swabs should be taken from the above mentioned areas and slides made for the pathologist to view in his/ her office and the result added to the autopsy report. These specimens must be collected after those for the Crime Kit.

- Results of the specimens taken should be forwarded to the doctor who performed the autopsy, by the Forensic Science Laboratory.

The training of DS is discussed below.

6.3.2 CLINICAL FORENSIC SERVICES

6.3.2.1 Introduction

There are numerous well-established organisations and experts in this field who should definitely be consulted and serious and widespread negotiations between all the role players commenced. The author is aware that there are difficulties and issues that most of us in urban areas have not even thought

about, which will only become known through intensive discussion and debate.

6.3.2.2 District Surgeons

The author feels that the problem with DS at present is largely due to a lack of training and education in the field of violence against women. The perception at present (which is inherited from our previous dispensation) is that the DS function is to provide a service for the courts and not to the rape survivor.

This manifests in many ways:

- a reluctance/ fear of having to testify therefore not taking an adequate history or detailed notes,
- not conducting an adequate examination merely collecting evidence not realising that injuries are evidence as well,
- 'bad attitudes' which the media wax lyrical about with regularity.

The DS or 'forensic medical officer' needs to be empowered by education and training provided by the State, as well as, back up with adequate facilities and amenities e.g. medicines, protocols (discussed below), counsellors etc.

6.3.2.3 Clinical Forensic Nursing Services

Concerning the use of forensic nurses in the management of rape survivors cognisance is taken of the fact that the service must be accessible to all women. The author feels very strongly that attention should be paid to ensuring adequate expertise in the examination of rape survivors, and as mentioned the service provided by doctors at present is often far from adequate in terms of medico-legal expertise. To expect this from nursing personnel, albeit that they are probably the only ones who are the most accessible, is probably asking too much without extensive training and education. The author is of the opinion that there will be reservations both

from the nursing establishment and from the Department of Justice in terms of testifying in court.

While integrating medico-legal services with primary health care would make the service more accessible, an examination carried out by an inexperienced and untrained doctor or nurse may be useless. Compromise on accessibility may need to be made in the short term to ensure quality is maintained.

Specialised curricula in clinical forensic medicine for nurses should be developed, and a qualification in clinical forensic practice be made available for nurses who want to specialise in this area, with the concomitant increased remuneration. There is a great possibility that nurses will not want to do this kind of work and they should not be compelled to do so as standards of care may suffer. At present, it is very difficult to find doctors who want to do this type of work. A curriculum for nurses has recently been introduced in Kimberley in the Northern Cape, with the advice of a specialist from the US. The course includes training in the technique of toluidine blue visualisation.

Compulsory annual in-service medical training should be provided for all Primary Health Care Workers (PHCW) who provide a service to rape survivors. This training should include input from organisations such as Rape Crisis and from prosecutors who specialise in sexual offence cases.

Training manuals for every PHCW should outline the relevant laws for their work, set out the specialised medical information they should be reminded of, and provide detailed descriptions of injuries specific to sexual assault in all ages groups of females.

A National directory of counselling services, help-lines etc. should be complied and given to all PHCW to display and distribute to any sexual assault survivor.

6.3.2.4 Sexual Assault Protocols

Protocol booklets should be available for all PHCW in every possible environment, from a city hospital to a rural clinic. These booklets should contain the exact steps and procedures to be followed in the management of a rape survivor. They should include guidelines on the nature of the biological samples to be taken, and the Crime Kit to be used (see Appendix D). The author and one of the senior gynaecology consultants of GSH compiled a protocol for the management of rape survivors at GSH (Appendix E). This protocol has been in existence for approximately one year and has achieved good results. The gynaecology registrars at GSH undergo regular in-service training with regard to the management of rape survivors, and a component of this has been included in the gynaecology and obstetrics block for 5th year students at UCT. The use of this protocol has been recently advocated at the other provincial hospitals in Cape Town.

An appropriate representative needs to be tasked to write similar guidelines for each area/hospital/clinic. These should obviously approved on a National level in accordance with established guidelines.

A protocol for all rape survivors should include the following essential provisions:

- All sexual assault survivors should receive verbal and written information on what services are offered by the facility. What the medical procedures will entail and why they need to be done, and further all women should be informed of any complaints' mechanisms that exist and how to use them.
- Prophylactic antibiotics - an expert in sexually transmitted diseases needs to be consulted in each area for the appropriate cover, taking into cognisance the fact that intramuscular penicillin cannot be given where resuscitation facilities do not exist.
- Post-coital contraception - Yuzpe method, and a referral letter to her nearest family planning clinic following her next normal menstruation.

- Referral to social worker for counselling, either in the facility or provide a list of options for the area. Contacts should be established with the organisations in the area so the patients do not arrive there 'cold'. Pre printed referral letters and addressed envelopes should be provided for the doctor's use in the clinic. The ideal situation is to have someone on hand to provide the necessary crisis intervention counselling, support, and then refer to an appropriate community based organisation for further follow-up.
- HIV counselling and testing. Again ideally at the facility, but can be established at a community-based organisation. The necessary pre printed referral letters and envelopes should be provided. These should inconspicuously identify the rape survivors to the community centre staff and avoided further trauma to the survivors.
- Referral channels to provincial hospitals for other consultations, e.g. gynaecology, orthopaedics, psychiatry etc.
- Medical certificates for school or work.
- Complaint mechanism to the police if unacceptable time delays or treatment is experienced by the survivor.
- A demographic data collection sheet.

All of the above procedures must be researched for each area before being implemented. The model of the MLC in Hillbrow has been successfully extended throughout Gauteng. In some instances, the communities offered services to the Department of Health. Clinic Holdings offered their casualty rooms and nursing staff as a rape crisis clinic. The DS could utilise the premises to examine rape survivors, which was beneficial to the SAPS as well as the rape survivors. A similar initiative in the Western Cape was established at Victoria Hospital but has subsequently closed, but GSH now offers such a service.

The use of toluidine blue and/ or colposcopy in the examination of rape survivors needs to be researched to ascertain whether it would be of value in the SA setting.

The goal for the proper management of the sexual assault survivor needs to be the development of a network of accessible specialised centres each run by a multidisciplinary team of trained professionals. This should include amongst others doctors, nurses, social workers and psychologists.

To avoid unnecessary delays in receiving medical attention the location of sexual assault facilities should be accessible to all women and widely advertised through community newspapers, radio and organisations. These facilities should include a police presence to enable a woman to lay a charge.

6.3.3 OTHER ISSUES

An important aspect concerning delivery of the service relates to the other role players, as sexual assault survivors are not only dealt with by the Department of Health, *inter alia*, Justice, SAPS, and Welfare. Thus of paramount importance is the setting up of effective communication channels between the different State agencies regarding protocol pertaining to State service delivery to sexual assault survivors.

Formal inter-agency agreements need to be drawn up between all agencies involved in the provision of services to sexual assault survivors regarding their particular roles and responsibilities. One state agency needs to be ultimately responsible for the co-ordination of this service.

Police detectives should be able to volunteer for sexual offences cases and be trained in issues surrounding gender violence. Police training should incorporate the use of medical and other forensic evidence.

Justice colleges where prosecutors and magistrates are trained should include courses on the use of forensic medical evidence and sensitisation towards sexual offences.

Each Regional court should identify specialised prosecutors to handle cases of sexual violence, who should be trained in the issues surrounding gender violence. Specialised training should be made available to court interpreters in medicolegal vocabulary. The use of appropriate doctors, as assessors to sit with magistrates in sexual assault cases should be encouraged.

Consideration should be given by the Department of Justice in providing remuneration to the Department of Health for the use of their services.

Casualty departments of all hospital and clinics should have information on display and available for women who have been abused to take home, relating to the medico-legal and counselling services available in their area.

The problems of abuse faced by women and children need to be desegregated and addressed as separate issues. If recommendations are made for rape survivors they should apply to all ages of females, and the issue of child abuse addressed elsewhere.

The J88 form which is used by the doctor when examining a rape survivor needs to be revised and changed, or alternatively a portion of the protocol be handed in as evidence.

REFERENCES

1. Sloan D. Rape: The Gynecologist's Role. J Reprod Med. 1976 Dec; 17(6): 324-326.
2. Hicks DJ. Rape: Sexual Assault. Obstet Gynecol Annu. 1978; 7: 447-465.
3. Budlender D, editor. Health In Our Hands. Proceedings and Policies of the 1994 Women's Health Conference; 1994 Dec 3-6; Johannesburg. Johannesburg: Women's Health Project, 1995.
4. Heise L. Violence Against Women: the hidden health burden. World Health Stat Q 1993; 46(1): 78-85.
5. Snyman CR. Criminal Law. 2nd ed. Durban: Butterworths, 1989.
6. The Sexual Offences Act. Act 23 of 1957. Statutes of the Republic of South Africa – Criminal Law and Procedure 1957. As Amended, 1993.
7. Human Rights Watch / Africa Human Rights Watch Women's Rights Project. Violence against women in South Africa: The State Response to Domestic Violence and Rape. New York: Human Rights Watch, 1995.
8. "Huge jump in Number of Reported Rapes". Sunday Times May 8, 1994.
9. South African Institute of Race Relations. South Africa Race Relations Survey 1997/98.
10. South African Police Services. Crime Information Analysis Center. 1999.
11. People Opposing Women Abuse. "Man Shoots Wife": A Pilot Study Detailing Intimate Femicide in Gauteng, South Africa. Johannesburg: People Opposing Women Abuse, 1996.
12. Butchart A, Brown DSO. Non-Fatal Injuries due to Interpersonal Violence in Johannesburg – Soweto: Incidence, Determinants and Consequences. Forensic Sci Int 1991 Dec; 52(1): 35-51.
13. McMahon PM, Mercy JA. Understanding Violence against Women [book review]. N Engl J Med 1997 Jan 23: 300.

14. Council on Scientific Affairs, American Medical Association. Violence Against Women, Relevance for Medical Practitioners. *J A M A* 1992 Jun; 267(23): 3184-3189.
15. Yoshihama M, Sorenson SB. Physical, Sexual, and Emotional Abuse by Male Intimates: Experiences of Women in Japan. Viol Vict 1994; 9(1): 63-77.
16. Rogers D. Physical Aspects of Alleged Sexual Assaults. Med Sci Law 1996 Apr; 36(2): 117-122.
17. Craven SA. Assessment of alleged rape victims – an unrewarding exercise. S A M J 1996; 86(3): 237-238.
18. Stanton S, Lochrenberg M. Justice for sexual assault survivors? State role-players' perceptions of the success of the Wynberg Sexual Offences Court and associated services: Report for the Institute of Criminology, University of Cape Town, Rape Crises, and Lawyers for Human Rights; 1994 Nov.
19. Lazarus JR. Reactions to rape – the need for a social context. S A M J 1981 Mar; 59(13): 462-464.
20. Gordon I, Shapiro HA. Forensic Medicine A Guide to Principles. 2nd ed. Edinburgh: Churchill Livingstone, 1982.
21. Knight B. Forensic Pathology.2nd ed. London: Arnold 1996.
22. Hazelwood RR, Dietz PE, Burgess AW. Sexual Fatalities: Behavioral Reconstruction in Equivocal cases. J Forensic Sci 1982; 27(4): 763-773.
23. Deming JE, Mittleman RE, Wetli CV. Forensic Science Aspects of Fatal Sexual Assaults on Women. *J Forensic Sci* 1983 Jul; 28(3): 572-576.
24. Marchbanks PA, Kung-Jong L, Mercy JA. Risk of Injury from Resisting Rape. Am J Epidemiol 1990 Sep; 132(3): 540-549.
25. Hayman CR, Lanza C. Sexual Assault on Women and Girls. Am J Obstet Gynecol 1971; 109(3): 480-486.
26. Woodling BA, Evans JR, Bradbury MD. Sexual Assault: Rape and Molestation. *Clin Obstet Gynecol.* 1977 Sep; 20(3): 509-530.
27. Halbert DR, Jones DED. Medical Management of the Sexually Assaulted Woman. J Reprod Med 1978 May; 20(5): 265-274.

28. Geist RF. Sexually Related Trauma. Emerg Med Clin North Am 1988 Aug; 6(3): 439-466.
29. Petter LM, Whitehill DL. Management of Female Sexual Assault. Am Fam Physician 1998 Sep; 58(4): 920-926.
30. South African Police Services. Crime Information Analysis Center (Western Cape), 1998.
31. Statistics South Africa. The People of South Africa Population Census, 1996. Magisterial Districts by Population Group and Gender. Report No:03-01-42 (1998).
32. Holmstrom LL, Burgess AW. Sexual behaviour of assailants during reported rapes. Arch Sex Behav. 1980 Oct; 9(5): 427-439.
33. Ullman SE, Knight RA. A Multivariate Model for Predicting Rape and Physical Injury Outcomes During Sexual Assaults. J Consult Clin Psychol 1991 Oct; 59(5):724-731.
34. Block R, Skogan WG. Resistance and Nonfatal Outcomes in Stranger-to-Stranger Predatory Crime. Violence Vict 1986; 1(4): 241-253.
35. Burge SK. Violence Against Women. Prim Care 1997 Mar; 24(1): 67-81.
36. Ruback RB, Ivie DL. Prior Relationship, Resistance, and Injury in Rapes: An Analysis of Crisis Center Records. Violence Vict 1988; 3(2): 99-111.
37. Ramin SM, Satin AJ, Stone IC, Wendel GD. Sexual Assault in Postmenopausal Women. Obstet Gynecol 1992 Nov; 80(5): 860-864.
38. Swiss S, Giller JE. Rape as a Crime of War: A Medical Perspective. J A M A. 1993 Aug; 270(5): 612-615.
39. Schiff AF. Statistical features of rape. *J Forensic Sci* 1969 Jan; 14(1): 102-110.
40. Duflou JALC, Lamont DL, Knobel GJ. Homicide in Cape Town, South Africa. *Am J Forensic Med Pathol* 1988; 9(4): 290-294.
41. Fanslow JL, Norton RN, Spinola CG. Indicators of Assault – Related Injuries Among Women Presenting to the Emergency Department. *Ann Emerg Med.* 1998 Sep; 32(3 pt 1): 341-348.

42. Härm T, Rajs J. Types of Injuries and Interrelated Conditions of Victims and Assailants in Attempted and Homicidal Strangulation. Forensic Sci Int 1981 Sep; 18(2): 101-123.
43. Johnson SD, Gibson L, Linden R. Alcohol and Rape in Winnipeg, 1966 – 1975. *J Stud Alcohol.* 1978 Nov; 39(11): 1887-1894.
44. Lerer LB. Women, Homicide and Alcohol in Cape Town, South Africa. *Forensic Sci Int* 1992; 55: 93-99.
45. Knobel GJ. Alcohol Related Mortality. In: South African Community Epidemiology Network on Drug Use: Monitoring Alcohol and Drug Abuse Trends. Proceedings of Report Back Meeting, 16 March 1999; Cape Town. Medical Research Council, Mental Health and Substance Abuse Division. In press.
46. Goodyear-Smith FA. Medical evaluation of sexual assault findings in the Auckland region. N Z Med J 1989 Sep; 102(876): 493-495.
47. Muram D, Hostetler BR, Jones CE, Speck PM. Adolescent Victims of Sexual Assault. *J Adolesc Health.* 1995 Dec; 17(6): 372-375.
48. Penttilä A, Karhumen PJ. Clinical Criminology: Rape Medicolegal Findings among Rape Victims. *Med Law* 1990; 9(1): 725-737.
49. Alexander BH, Franklin GM, Wolf ME. The Sexual Assault of Women at Work in Washington State, 1980 to1989. Am J Public Health 1994 Apr; 84(4): 640-642.
50. Seligman PJ, Newman SC, Timbrook CL, Halperin WE. Sexual Assault of Women at Work. Am J Ind Med 1987; 12(4): 445-450.
51. Helweg-Larsen K. The Value of the Medico-Legal Examination in Sexual Offences. Forensic Sci Int 1985; 27: 145-155
52. Tintinalli JE, Hoelzer M. Clinical Finding and Legal Resolution in Sexual Assault. Ann Emerg Med 1985 May; 14(5): 447-453.
53. Rambow B, Adkinson C, Frost TH, Peterson GF. Female Sexual Assault: Medical and Legal Implications. Ann Emerg Med 1992 Jun; 21(6): 727-731.
54. Cartwright PS, Moore RA, Anderson JR, Brown DH. Genital Injury and Implied Consent to Alleged Rape. J Reprod Med 1986 Nov; 31(11): 1043-1044.

55. Kahn F. Annual Report – 1996: Office of the Attorney General: Western Cape; 1996
56. Hayman CR, Lanza C, Fuentes R, Algor K. Rape in the District of Columbia. Am J Obstet Gynecol 1972 May; 113(1): 91-97.
57. Michael RP, Zumpe D. Sexual Violence in the United States and the Role of Season. Am J Psychiatry 1983 Jul; 140(7): 883-886.
58. Rao VJ. Patterned Injury and Its Evidentiary Value. J Forensic Sci 1986 Apr; 31(2): 768-772.
59. Department of Forensic Medicine and Toxicology, University of Cape Town. Annual Mortality Report 1998. Cape Town.
60. Central Statistic Services. 1991 Population Census: Selected Statistics Region: Johannesburg/Randburg, Social Characteristics. Part1, Report No. 03-01-16 [1991]; Part 2, Report No. 03-01-17[1991].
61. Sorenson SB, Stein JA, Siegel JM, Golding JM, Burnam MA. The Prevalence of Adult Sexual Assault: The Los Angeles Epidemiologic Catchment Area Project. Am J Epidemiol 1987 Dec; 126(6): 1154-1164.
62. Voight J. Sexual Offences in Copenhagen: A Medicolegal Study. Forens Sci 1972 Apr; 1(1): 67-76.
63. Ng AYH. The Pattern of Rape in Singapore. Singapore Med J 1974 Mar; 15(1): 49-50.
64. Bownes IT, O'Gorman EC, Sayers A. Rape – A Comparison of Stranger and Acquaintance Assaults. Med Sci Law 1991 Apr; 31(2): 102-109.
65. Stermac LE, Du Mont JA, Kalemba V. Comparison of Sexual Assaults by Strangers and Known Assailants in an Urban Population of Women. Can Med Assoc J 1995 Oct; 153(8): 1089-1094.
66. PeiPert JF, Domagalski LR. Epidemiology of Adolescent Sexual Assault. Obstet Gynecol 1994 Nov; 84(5): 867-871.
67. Everett RB, Jimmerson GK. The Rape Victim: A Review of 117 Consecutive Cases. Obstet Gynecol 1977 Jul; 50(1): 88-90.
68. Cartwright PS, Sexual Assault Study Group. Reported sexual assault in Nashville-Davidson County, Tenessee, 1980 to 1982. Obstet Gynecol 1986 May; 154(5): 1064-1068.

69. Cartwright PS, The Sexual Assault Study Group. Factors that Correlate with Injury Sustained by Survivors of Sexual Assault. Obstet Gynecol 1987 Jul; 70(1): 44-46.
70. Emmert C, Köhler U. Data about 154 children and adolescents reporting sexual assault. Arch Gynecol Obstet 1998; 261(2): 61-70.
71. The Women's Health Project. The South African Women's Health Book. Cape Town: Oxford University Press, 1996.
72. Olasanya O, Ogabemi S, Unuigbe J, Oronsaye A. The Pattern of Rape in Benin City, Nigeria. Trop Geogr Med 1986 Sep; 38(3): 215-220.
73. Langlois NEI, Gresham GA. The aging of bruises: a review and study of the colour changes with time. For Sci Int 1991; 50: 227-238.
74. Shepherd JP, Al-Kotany MT, Subadan C, Sculley C. Assault and facial soft tissue injuries. Br J Plast Surg 1987 Nov; 40(6): 614-619.
75. Huang V, Moore C, Bohrer P, Thaller SR. Maxillofacial Injuries in Women. Ann Plast Surg 1998 Nov; 41(5): 482-484.
76. Fisher EB, Kraus H, Lewis Jr VL. Assaulted women: maxillofacial injuries in rape and domestic violence. Plas Recons Surg 1990; 86(1): 161-162.
77. Ligthelm AJ, van Niekerk PJ. Comparative Review of Bitemark Cases From Pretoria, South Africa. J Forensic Odontostomatol 1994 Dec; 12(2): 23-29.
78. Furness J. A general review of bite-mark evidence. Am J For Med Path 1981 Mar; 2(1): 49-52.
79. Norrlander AL. Comment on "The Past and Present Legal Weight of Bite Marks as Evidence" [letter]. Am J For Med Path 1996; 17(4): 352-354.
80. Soules MR, Stewart SK, Brown KM, Pollard AA. The Spectrum of Alleged Rape. J Reprod Med 1978 Jan; 20(1): 33-39.
81. Smikle CB, Sorem KA, Satin AJ, Hankins GDV. Physical and Sexual Abuse in a Middle-Class Obstetric Population. South Med J 1996 Oct; 89(10): 983-988.
82. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Washington: APA, 1987.

83. Money J. Forensic Sexology: Paraphilic Serial Rape (Biastophilia) and Lust Murder (Erotophonophilia). Am J Psychother 1990 Jan; 44(1): 26-36.

84. Bonheur HH, Rosner R. Sex Offenders: Diagnosis, Organicity, and Intelligence. J Forensic Sci 1981 Oct; 26(4): 782-792.

85. Orr CJ, Clark MA, Hawley DA, Pless JE, Tate LR, Fardal PM. Fatal Anorectal Injuries: A Series of Four Cases. J For Sci 1995 Mar; 40(2): 219-221.

86. Schiff AF. Examination and Treatment of the Male Rape Victim. South Med J 1980 Nov; 73(11): 1498-1502.

87. Eckert WG, Katchis S, Donovan W. The Pathology and Medicolegal Aspects of Sexual Activity. Am J For Med Path 1991; 12(1): 3-15.

88. Elam AL, Ray VG. Sexually Related Trauma: A Review. Ann Emerg Med 1986 May; 15(5): 576-584.

89. Haney AF. Vaginal Evisceration after Forcible Coitus with Intraabdominal Ejaculation. J Reprod Med 1978 Oct; 21(4): 254-256.

90. Chen YM, Davis M, Ott DJ. Traumatic Rectal Haematoma Following Anal Rape. Ann Emerg Med 1986 Jul; 15(7): 850-852.

91. Black CT, Pokorny WJ, McGill CW, Harberg FJ. Ano-Rectal Trauma in Children. J Pediatr Surg 1982 Oct; 17(5): 501-504.

92. Bowyer L, Dalton ME. Female victims of rape and their genital injures. Br J Obstet Gynaecol 1997 May; 104: 617-620.

93. Satin AJ, Hemsell DL, Stone IC, Theriot S, Wendel Jr GD. Sexual Assault in Pregnancy. Obstet Gynecol 1991 May; 77(5): 710-714.

94. Wiebe ER. Genital injuries in sexual assault victims [letter]. Can Med Assoc J 1991 Mar;144(6): 644, 647.

95. Biggs M, Stermac LE, Divinsky M. Genital injuries following sexual assault of women with and without prior sexual intercourse experience. Can Med Assoc J 1998 Jul; 159(1): 33-37.

96. Slaughter L, Brown CRV, Crowley S, Peck R. Patterns of genital injury in female sexual assault victims. Am J Obstet Gynecol 1997 Mar; 176 (3): 609-616.

97. Teixeira WRG. Hymenal colposcopic examination in sexual offences. Am J For Med Path 1981 Sep; 2(3): 209-215.

98. UnderhillRA, Dewhurst J. The Doctor Cannot Always Tell: Medical Examination of the "Intact" Hymen. Lancet 1978 Feb; 1(8060): 375-376.

99. Kille ML. Examination of the Hymen. Med J Aust 1978 Dec; 2(12): 568.

100. Norvell MK, Benrubi GI, Thompson RJ. Investigation of Microtrauma After Sexual Intercourse. J Reprod Med 1984 Apr; 29(4): 269-271.

101. Slaughter L, Brown CRV. Cervical findings in rape victims. Am J Obstet Gynecol 1991 Feb; 164(2): 528-529.

102. Slaughter L, Brown CRV. Colposcopy to establish physical findings in rape victims. Am J Obstet Gynecol 1992 Jan; 166(1 pt 1): 83-86.

103. Lauber AA, Souma ML. Use of toluidine blue for documentation of traumatic intercourse. Obstet Gynecol 1982 Nov; 60(5): 644-648.

104. O'Brien C. Forensic Nursing: Improved forensic documentation of genital injuries with colposcopy. J Emerg Nurs 1997 Oct; 23(5): 460-462.

105. Lenahan LC, Ernst A, Johnson B. Colposcopy in Evaluation of the Adult Sexual Assault Victim. Am J Emerg Med 1998 Mar; 16(2): 183-184.

106. McCauley J, Gorman RL, Guzinski G. Toluidine Blue in the Detection of Perineal Lacerations in Pediatric and Adolescent Sexual Abuse Victims. Pediatrics 1986 Dec; 78(6): 1039-1043.

107. McCauley J, Guzinski G, Welch R, Gorman RL. Toluidine Blue in the Corroboration of Rape in the Adult Victim. Am J Emerg Med 1987 Mar; 5(2): 105-108.

108. Hochmeister MN, Whelan M, Borer UV, Gehrig C, Binda S, Berzlanovich A, et al. Effects of toluidine blue and destaining agents used in sexual assault examinations on the ability to obtain DNA profiles from postcoital vaginal swabs. J Forensic Sci. 1997 Mar; 42(2): 316-319.

APPENDIX A

DR

Name: Age/ race:

Address:

Date of autopsy:

Date of death:

Pathologist:

Station:

MAS number:

Investigating officer:

Telephone number:

Found at:

Specimens:

Scene photos: Autopsy photos: Alcohol:

Cause of death:

Genital injuries:

Comments:

APPENDIX B

/jm GW 7/15

REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH : PROVINCE OF THE WESTERN CAPE

REPORT ON A MEDICO-LEGAL POST-MORTEM EXAMINATION

Death Register No DR

To the Magistrate of Cape Town.

AFFIDAVIT IN TERMS OF SECTION 212(4), ACT 51 OF 1977 (SAP 378)

I, **(doctor's name and degrees)**

state under oath:

1. I am in the service of the Province of the Western Cape as a Registrar / Medical Officer in Forensic Pathology and stationed at the Medical Faculty of the University of Cape Town.

2. On the **(date)** commencing at **(time)**, I examined the corpse of a **(race and gender)** who was pointed out to me by **(name of police officer)** of the SAPS Medico-legal Laboratory in Salt River and who identified the body as being that of **DR(number)** whose estimated **age was ( ) years**, and that the body was certified as dead, as informed, on **(date)**.

3. I conducted a post-mortem examination on the said body and recorded my findings which facts I ascertained by means of an examination requiring skill in anatomy and pathology.

4. The **chief post-mortem findings** made by me on this body were:

5. That, as a result of my observations, a schedule of which follows, I concluded that the **cause/causes of death** was/were:

SCHEDULE OF OBSERVATIONS

GENERAL

1. Height: Mass:
   Physique: Nutrition:

2. Special identifying features:

3. Secondary post-mortem changes:

4. External appearance of body and condition of limbs:

HEAD AND NECK

5. Skull:

6. Intracranial contents:

7. Orbital, aural and nasal cavities:

8. Mouth, tongue and pharynx:

9. Neck structures:

CHEST:

10. Thoracic cage and diaphragm:

11. Mediastinum and oesophagus:

12. Trachea and bronchi:

13. Pleura and lungs:

14. Heart and pericardium:

15. Large blood vessels:

ABDOMEN:

16. Peritoneal cavity:

17. Stomach and contents:

18. Intestines and mesentery:

19. Liver, gall-bladder and biliary passages:

20. Pancreas:

21. Spleen:

22. Adrenals:

23. Kidneys and ureters:

24. Urinary bladder and urethra:

25. Pelvic walls:

26. Genital organs:

SPINE:

27. Spinal column:

28. Spinal cord:

SPECIMENS RETAINED

1. Blood for alcohol content determination was withdrawn from the femoral vessels with a syringe and transferred to a bottle which had been removed from an envelope which was sealed with seal no.7 of the State Chemical Laboratory. Both the bottle and the envelope were marked DR ( ). After placing the bottle back into the envelope, it was handed to ( ) for resealing with SA Police seal no.1183.
2. Blood was taken for grouping, placed in a container, and handed to ( ) for sealing.
3. were placed in a toxicology box marked Salt River No.( ), after the official seal of the Health Chemistry Laboratory no.8 was broken. Thereafter the box was handed to ( ) for resealing with SAP seal no.1183.
4. Tissues were retained for histological examination.

ADDITIONAL OBSERVATIONS

oooOOOooo

1. I know and understand the contents of this declaration.
2. I have no objections to taking the prescribed oath.
3. I consider the prescribed oath to be binding on my conscience.

Place: Cape Town

.....

(name of doctor)
(degrees)

I certify that the deponent has acknowledged that he/she knows and understands the contents of this declaration, that he/she has no objection to taking the prescribed oath and considers it to be binding on his/her conscience, and that this declaration was sworn to/affirmed before me, and the deponent's signature was placed thereon in my presence at

Cape Town on ..... (date).

.....
Commissioner of Oaths

Full Name: .....

Designation: .....

Business Address: .....

APPENDIX C

G.P.-S. 003-0055

J 88

Verslag van Distriksgeneesheer, Mediese Beampte of Mediese Praktisyn oor die uitvoer van 'n Mediesgeregtelike Ondersoek
Report by District Surgeon, Medical Officer or Medical Practitioner on the completion of a Medico-legal Examination

Die vorm moet in LEESBARE handskrif voltooi word
The report must be completed in LEGIBLE handwriting

◄— NB —►

Die geneesheer moet ELKE bladsy ONDERTEKEN
The med. practitioner must SIGN at the bottom of EVERY PAGE

1 Polisiestasie • *Police station*	MAS No./CAS No.

2 **Persoon wat ondersoek aanvra**: Van en voorletters ***Person requesting exam.***: *Surname and initials*	No. (Indien polisiebeampte) *No. (If police officer)*

3 Datum en tyd van ondersoek
Date and time of examination

Date • *Date*	Tyd • *Time*

Geneesheer wat die ondersoek voltooi
Medical practitioner completing the examination

4 Geneesheer: Van en Voorletters *Med. Practitioner: Surname and Initials*	Posadres en Tel. No. • *Postal address and Tel. No.*

5 Plek van ondersoek • *Place of examination*

6 PERSOON ONDERSOEK • *PERSON EXAMINED*

(a) Naam • *Name*	(b) Geslag • *Sex*	(c) Ouderdom of vermoedelike ouderdom • *Age or apparent age*

7 Vorige relevante mediese geskiedenis (bv. diabetes, hoë bloeddruk ens.) • *Past relevant medical history (eg. diabetes, hypertension etc.)*

8 Toestand van klere • *Condition of clothing*

9 Toestand van persoon wat liggaamskragte, algemene gesondheidstoestand en geestestoestand betref • *State of the person as regards physical power, general state of health and mental state*

10 Kliniese bevindings (Uitgesluit [11] hieronder) • *Clinical findings (Excluding [11] below)*

In elke geval moet die aard, plek en grootte van die skaafplek, wond of ander letsel sowel as die vermoedelike datum en wyse waarop dit veroorsaak is, omskryf en aangeteken word.

In every case the nature, position and extent of the abrasion, wound or other injury must be described and noted together with its probable date and manner of causation.

11 Kliniese bevindings in geval van beweerde verkragting of ander seksuele oortreding • *Clinical findings in a case of alleged rape or other sexual offence*

(a) Vorige swangerskappe *Previous pregnancies*	NEE *NO*	Aantal swangerskappe *Number of pregnancies*	Aantal bevallings *Number of deliveries*

(b) Swangerskaptoets *Pregnancy test*	NEE *NO*	JA *YES*	Positief *Positive*	Negatief *Negative*

(c) Kontrasepsie *Contraception*	NEE *NO*	JA *YES*

(d) Datum van laaste menstruasie *Date of last menses*

(e) Datum van laaste vrywillige geslagsgemeenskap *Date of last intercourse with consent*

(f) Het die persoon sedert die beweerde plaasvind van die misdryf gebad, urineer, gespoel of klere verwissel *Has the person bathed, urinated, douched or changed clothing since the alleged offence took place*	NEE *NO*	JA *YES*

Indien JA, spesifiseer • *If YES, specify*

(g) GINEKOLOGIESE ONDERSOEK • *GYNAECOLOGICAL EXAMINATION*

Maklik of pynlik *Easy or painful*	Groot skaamlippe *Labia majora*

Handtekening van geneesheer
Signature of Med. practitioner ►

Klein skaamlippe *Labia minora*	
Voorhof *Vestibule*	
Maagdenvlies *Hymen*	
Skede (aantal vingers toegelaat) *Vagina (number of fingers admitted)*	Baarmoeder *Uterus*
Lipvlies *Fourchette*	
Boudnaat, anus *Perineum, anus*	
Afskeiding, bloeding *Discharge, haemorrhage*	

(h) Borste
Breasts

12 (a) Monsters geneem vir spesiale ondersoek • *Specimens taken for special investigation*

Spesifiseer aard van monsters • *Specify nature of specimens*

.....

.....

.....

.....

.....

12 (b) Monsters oorhandig aan • *Specimens handed to*

Polisiebeampte • *Police officer*

Naam • *Name*

.....

No. .....

Handtekening
Signature.....

13 *Ander mense teenwoordig by ondersoek
Other people present at examination

14 (a) Ander tersaaklike waarnemings • *Other relevant observations*

.....

.....

.....

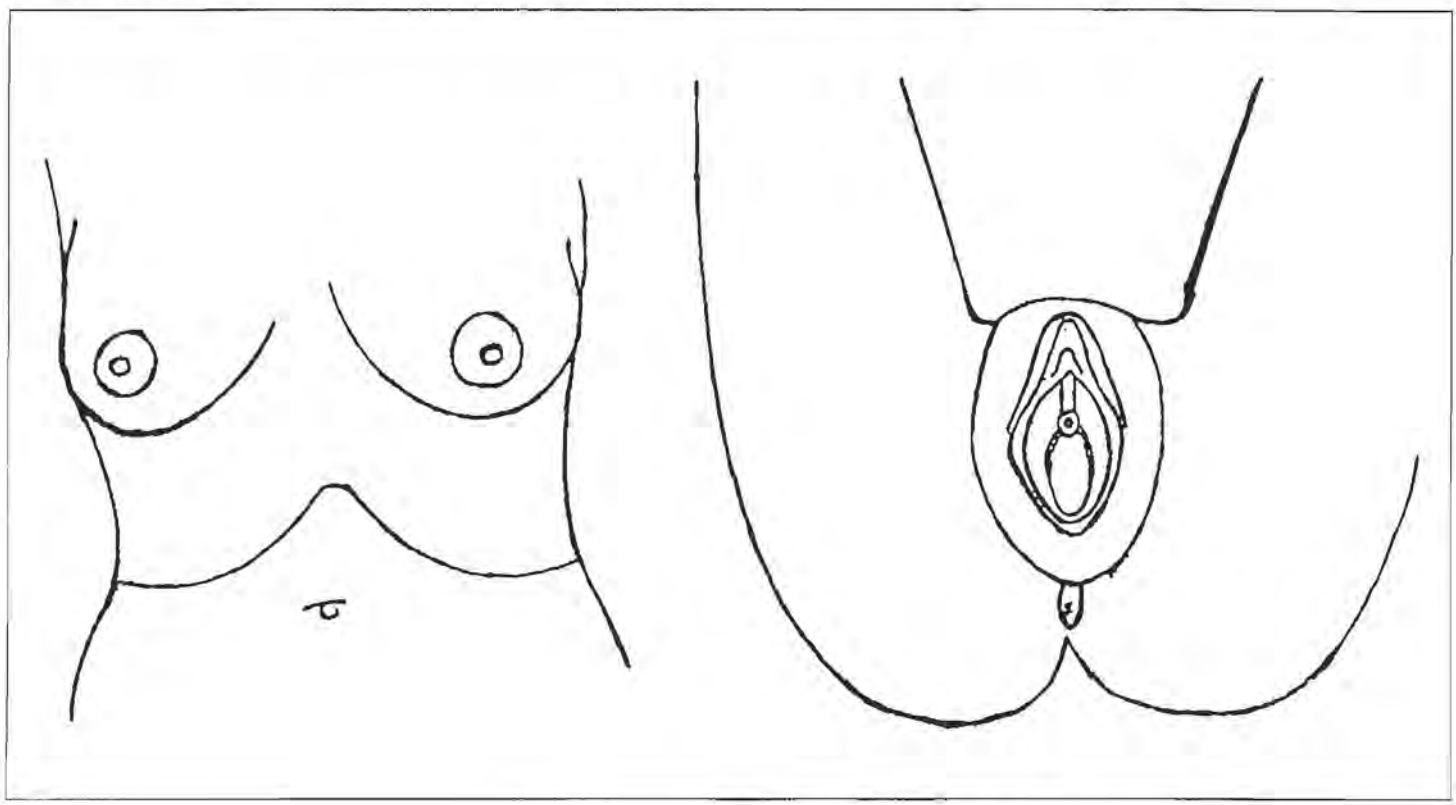
.....

.....

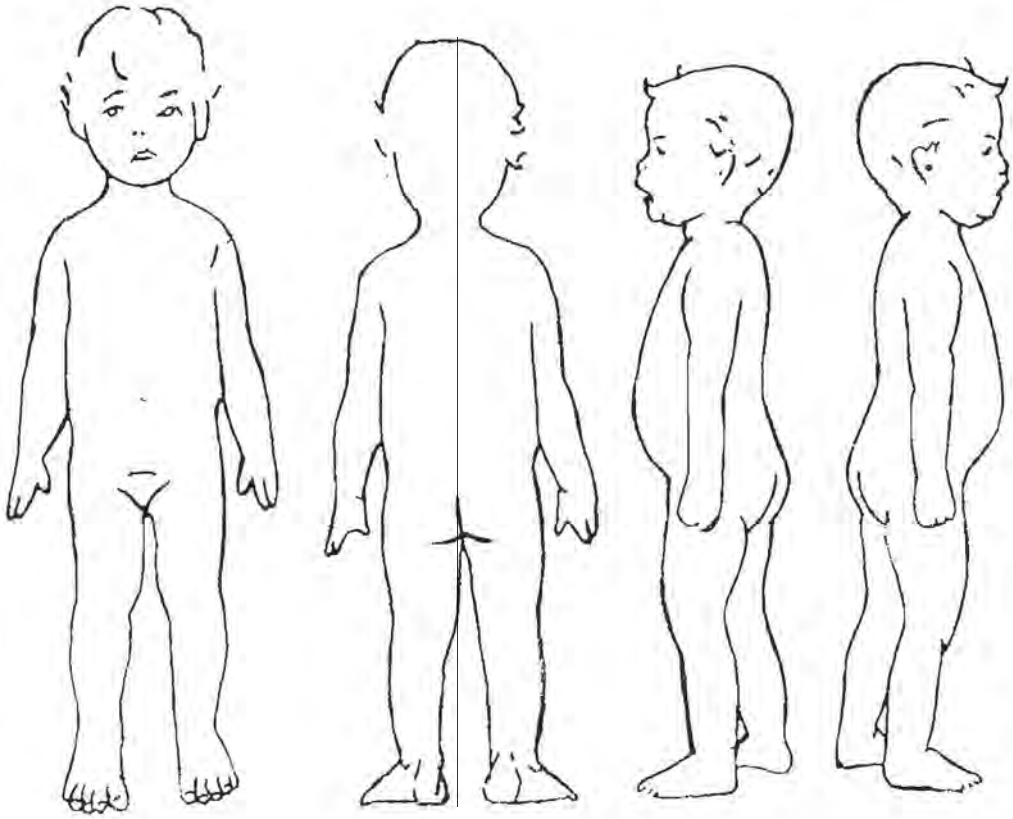
.....

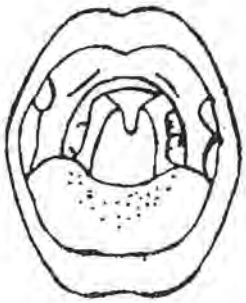
(b) Verwysing • *Referal to*

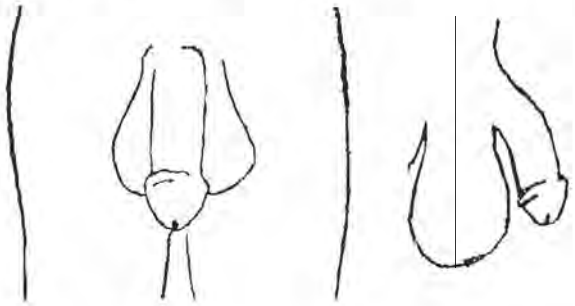
* Bv. Verpleegster, tolk ens. Dui aan rede vir teenwoordigheid indien nie duidelik nie • *Eg. Nurse, interpreter etc. Indicate reason for presence where not apparent.*



Handtekening van geneesheer
Signature of Med. practitioner ▶ .....







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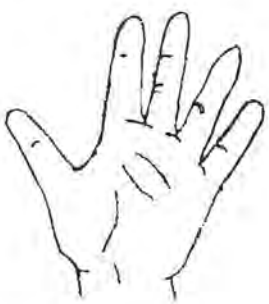
Eardrum

Regs
Right



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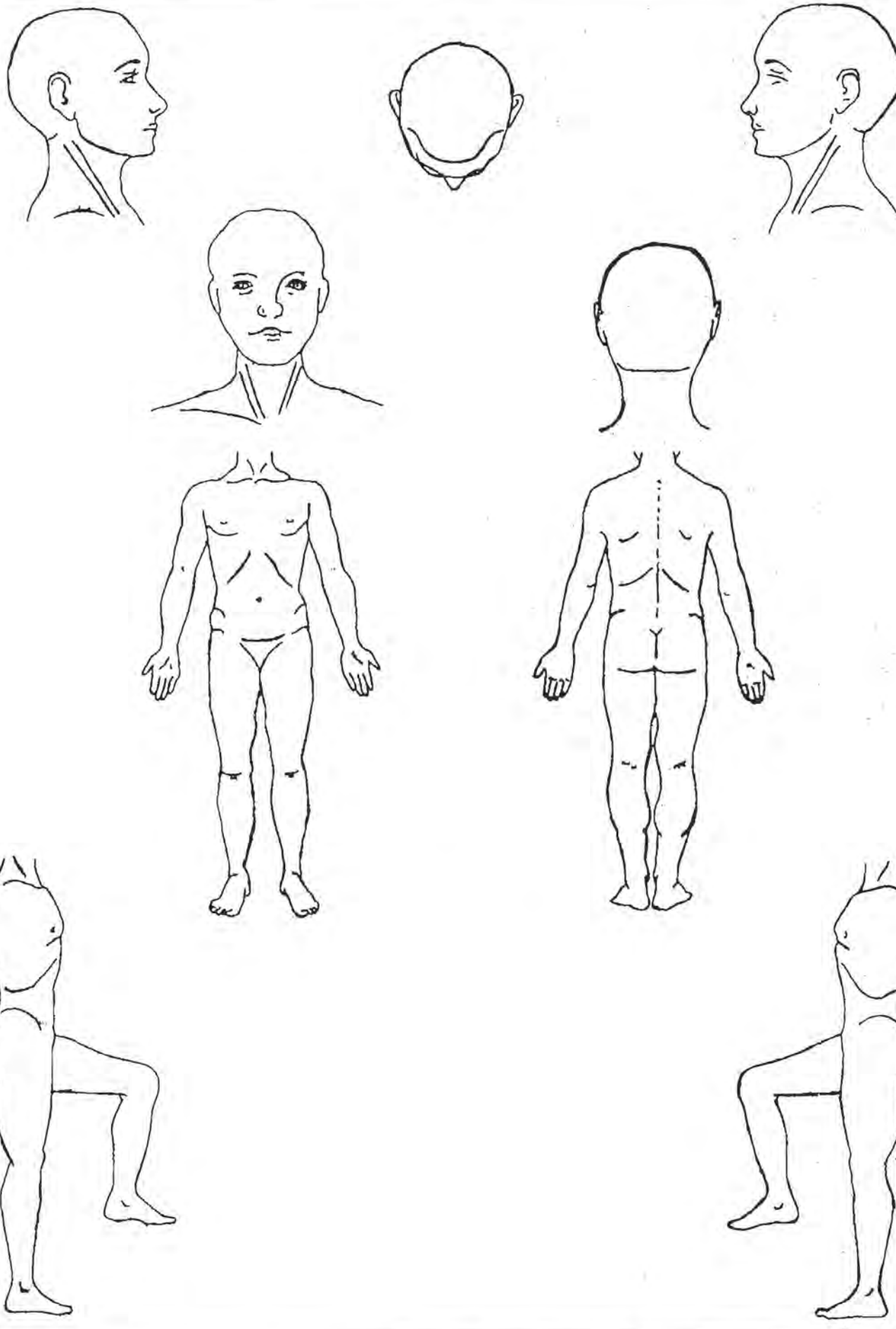
Handtekening van geneesheer
Signature of Med. practitioner ▶ .....



Handtekening van geneesheer
Signature of Med. practitioner ▶ .....

APPENDIX D

Note: Only an excerpt of the protocol book relevant to the examination of the rape survivor has been reproduced.

District Surgeon

Medicolegal Clinic

4 th EDITION: FEBRUARY 1996

WRITTEN AND COMPILED BY: DR L.J. MARTIN
SENIOR DISTRICT SURGEON
JOHANNESBURG

MEDICOLEGAL CLINIC PRTOCOLS

TABLE OF CONTENTS

PROTOCOL FOR EXAMINATION OF RAPE VICTIM

1. Ensure you have case number and completed SAP 308 (add. A).

2. SAPS Station must be within Johannesburg Magesterial District.

3. J88 must be completed in duplicate.

4. Take history from victim, recording it on J88, then decide which Crime Kit to use.

5. After examination, and specimen gathering, add onto J88:

   (a) Crime Kit number used.

   (b) Seal numbers of Crime Kit.

   (c) Actual specimens taken.

   e.g.: Crime Kit 1 066824/3
   vaginal swab and slide

   blood X2 - gping OR
   - DNA

   foreign hair
   pubic hair
   comb
   panties

   Crime Kit 3 072469/8
   vaginal swab and slide
   panties

6. After examination each patient must be given the following:

   (a) A Booklet - Information and Services Medicolegal Clinic Johannesburg.

   (b) Prophylactic antibiotic regimen:- if necessary

   (i) Adults
   Tarivid 2 stat
   Flagyl 10 stat
   Doxycycline 1 b.d. x 10 days

   (ii) Children
   Flagyl susp
   Cephalexin (Lenocef) susp. OR
   Erythromycin (Purmycin) susp.
   Dosages in file for weight and age.

   Side-effects, and contra-indications of above are listed in file.
   Also available for use: Betadine vaginal douche and an anti-fungal agent.

   (c) Post-coital contraception - if necessary.

   Ovral 2 stat, and 2 twelve hours later.

   If Ovral is given, please give patient referral letter for Family Planning Clinic (Add. B), for a follow-up consultation after their next normal menstrual period. A list of all provincial and local authority family planning clinics is in the back of the blue protocol file in the medicolegal clinic.

NB : (b) and (c) to be entered into dispensing book if given.
Write medication given into booklet for patient.

(d) Referral to S/W for counselling, the following options are available:-

(i) Phone from list in booklet from our office or at their own leisure.
(ii) Direct referral to POWA counsellors after making an appointment for the patient - complete referral letter for patient (Add.C) and envelope (Add.D).

POWA counsellors available : Mon.-Fri. 08h30 - 21h00 on 642 4345/6
After hours & weekends on 650 5050 code 7092

(iii) Direct refferal to another appropriate counselling service, consult resource list in file, complete blank referral letter for patient (Add.E) with correctly addressed envelope.
(iv) Dr. to phone S/W department or S/W on call of hospital to arrange admission or appointment. Complete blank refferal letter (Add.E) for patient if so arranged.

Hillbrow hospital	720 1121 ext. 2977 (office hrs.)
Johannesburg General	488 4120 (office hrs.)
	488 4911 or 484 1616 to page S/W
J.G. Strijdom	489 0420 (office hrs.)
	489 1011 to page S/W
Coronation hospital	673 4200

(v) If referring to hospital for other reasons eg. injuries or gynaecology consult, remember to request S/W consult on referral letter (option 3).

(e) Referral for HIV counselling and testing:

(i) Complete referral letter for Community AIDS centre (Add. F) and envelope (Add. G), for patient to go during office hours. The centre is also open on a Thursday evening from 17h00 to 19h30.
(ii) If referring to hospital / clinic / GP request HIV testing (option 4) on referral letter.
(iii) Allow patient to read booklet at own leisure and go self to Community AIDS Centre, or to come back during office hours for a referral letter.

7. If patients need to be referred to a Provincial hospital eg. for attention to injuries, gynae. consult, admission etc., then list requests as per referral letter (Add. H). Remember to include all services as listed above if not dealt with yourself.

8. Medical certificates are available for completion if requested by the patient for employer / school / college etc. (Add. I). Remember to include time off to visit all counselling services referred to.

9. If there has been an unacceptable delay on the part of the SAPS in bringing the complainant for examination (+3hrs. from time of reporting), complete the standard complaints letter (Add. J) and address a blank envelope for the morning mail. Letter to be completed in duplicate please.

10. Please ensure that the statistic form (Add. K) is completed correctly.

ADDENDUM A

STATION : _____

CASE No. : _____

C P-S 002-0350 ~~SAP 308~~

SUID-AFRIKAANSE POLISIE SOUTH AFRICAN POLICE

ONDERSOEK IN 'N GEVAL VAN BEWEERDE AANRANDING OF ANDER MISDAAD
EXAMINATION IN A CASE OF ALLEGED ASSAULT OR OTHER CRIME

Ek,
I, ...

Ouer/Voog van
Parent/Guardian of ..... Ouderdom
Age .....

verleen hiermee toestemming dat hy/sy/ek volledig deur die distriksgeneesheer van
hereby consent to his/my/her being subjected to examination by the district surgeon of .....

ondersoek word en dat die bevindinge vir strafregtelike verrigtinge genotuleer mag word.
and to the recording of findings for criminal proceedings.

Ek verleen ook toestemming vir die neem van alle monsters, soos benodig, vir laboratoriumtoetse asook vir die
I also consent to the collection of all necessary specimens for laboratory tests and for the taking of necessary
neem van die nodige foto's van beserings wat verband hou met die rede vir hierdie ondersoek.
photographs of injuries related to the reason for this examination.

Plek
Place .....

Datum
Date..... .....
Handtekening/Signature

Getuies:
Witnesses: (1)..... (2) .....

Ek, No 'n lid van die
I, No. .....a member of the

Suid-Afrikaanse Polisie, versoek hiermee die distriksgeneesheer van die distrik
South African Police, hereby request the district surgeon of the district .....

om die klaer/klaagster in 'n saak van
to examine .....a complainant in a case of

.....te ondersoek.

Plek
Place .....

Datum
Date..... .....
Handtekening/Signature

Besonderhede van saak/Particulars of case ..The police must give you some history here – eg. date + time of rape; number + ethnicity of assailants; whether the complainant knows the assailant.

.....

DDENDUM
B

PROVINSIALE ADMINISTRASIE - GAUTENG
PROVINCIAL ADMINISTRATION - GAUTENG

Navrae/Enquiries: District Surgeon Office

Verwysing/Reference: Medicolegal Clinic

Tel.: 725-4860/1/2/3 OR 725 2811

Faks/Fax: 725-4860 X 2253

Adres
Address: Gesondheidsdienste/
Health Services
Privaatsak/Private Bag X 21
JOHANNESBURG
2000

TO: FAMILY PLANNING CLINIC

Please assist _____ with a follow up consultation. She was given the Yuzpe method of post-coital contraception.

Please offer her whatever examination and contraceptive counselling you deem necessary.

Thank you

_____

DISTRICT SURGEON
JOHANNESBURG

ADDENDUM C

PROVINSIALE ADMINISTRASIE - GAUTENG
PROVINCIAL ADMINISTRATION - GAUTENG

Navrae/Enquiries: District Surgeon Office

Verwysing/Reference: Medicolegal Clinic

Tel.: 725-4860/1/2/3 OR 725 2811

Faks/Fax: 725-4860 X 2253

Adres / Address: Gesondheidsdienste/ Health Services
Privaatsak/Private Bag X 21
JOHANNESBURG
2000

TO: P O W A
64 MITCHELL STREET
BEREA

Dear Counsellor,

Please assist _____, Age _____.

She was raped on _____ at _____, and was examined at our clinic on _____ at _____.

We have completed the necessary documentation and taken the necessary specimens.

Please would you offer her whatever counselling services you deem necessary.

Thank you

Yours faithfully

_____

DISTRICT SURGEON
JOHANNESBURG

ADDENDUM
D

81/72599 (E 10)

ATTN: COUNSELLOR
POWA
64 MITCHELL
(OFF TUDHOPE)
BEREA

ADDENDUM
E

PROVINSIALE ADMINISTRASIE - GAUTENG
PROVINCIAL ADMINISTRATION - GAUTENG

Navrae/Enquiries: District Surgeon Office

Verwysing/Reference: Medicolegal Clinic

Tel.: 725-4860/1/2/3 OR 725 2811

Faks/Fax: 725-4860 X 2253

Adres
Address: Gesondheidsdienste/
Health Services
Privaatsak/Private Bag X 21
JOHANNESBURG
2000

TO: COUNSELLOR

_____

_____

_____

Dear Counsellor,

Please assist _____, Age _____.

She was raped on _____ at _____, and was examined at our clinic on _____ at _____.

We have completed the necessary documentation and taken the necessary specimens.

Please would you offer her whatever counselling services you deem necessary.

Thank you

Yours faithfully

_____

DISTRICT SURGEON

JOHANNESBURG

ADDENDUM F

PROVINSIALE ADMINISTRASIE - GAUTENG
PROVINCIAL ADMINISTRATION - GAUTENG

Navrae/Enquiries: District Surgeon Office

Verwysing/Reference: Medicolegal Clinic

Tel.: 725-4860/1/2/3 OR 725 2811

Faks/Fax: 725-4860 X 2253

Adres / Address: Gesondheidsdienste/ Health Services
Privaatsak/Private Bag X 21
JOHANNESBURG
2000

COUNSELLOR
HIV CLINIC
17 ESSELLEN ST
HILLBROW

Dear Mr Breouard/Ms Makoe

Thank you for seeing _____.

She was seen at our clinic on _____, after having been raped on _____.

All necessary documentation has been completed and medicolegal specimens have been taken.

Please would you offer a baseline HIV test, counselling and follow up for HIV as you deem necessary.

Thank you

Yours faithfully

_____
DISTRICT SURGEON

ADDENDUM G

81/72599 (E 10)

DISTRICT SURGEON
PRIVATE BAG/PRIVAATSAK X21
1996 -02- 12
JOHANNESBURG 2000
DISTRIKSGENEESHEER

ATTN: MR PIERRE BREQUARD
MS VICTORIA MAKOE
HIV COUNSELLOR
Community AIDS Centre
17 Essellen Street
CNr Klein
HILLBROW

DDENDUM

H

PROVINSIALE ADMINISTRASIE - GAUTENG
PROVINCIAL ADMINISTRATION - GAUTENG

Navrae/Enquiries: District Surgeon Office

Verwysing/Reference: Medicolegal Clinic

Tel.: 725-4860/1/2/3 OR 725 2811

Faks/Fax: 725-4860 X 2253

Adres / Address: Gesondheidsdienste/ Health Services
Privaatsak/Private Bag X 21
JOHANNESBURG
2000

TO THE: CASUALTY OFFICER

_____ HOSPITAL

Please assist _____ Age: _____. She was raped on the _____ and was examined at the District Surgeon's premises on the _____. A J88 Rape/Assualt form has been completed and all medicolegal specimens have been taken, and handed to the police. Please would you assist with the following:

1. Prophylactic medical treatment against venereal disease. Y/N
2. Post-coital prophylaxis to prevent pregnancy from this rape. Y/N
3. Social and psychological support/counselling. Y/N
4. STD and HIV counselling and blood screen. Y/N
5. To be followed up in case of a pregnancy resulting from this rape. Y/N
6. Treatment for existing vaginal discharge/PID. Y/N
7. To exclude existing pregnancy prior to rape. Y/N
8. Assessment and treatment of gynae injuries sustained during rape. Y/N
9. Assessment and treatment of other injuries sustained. Y/N

O/E: LNMP: CONTRACEPTION:

PV: OTHER:

SPECULUM:

Thank you

REFERRED BY DR.:

_____

DISTRICT SURGEON JOHANNESBURG

11.

ADDENDUM

I

PROVINSIALE ADMINISTRASIE - GAUTENG
PROVINCIAL ADMINISTRATION - GAUTENG

Navrae/Enquiries: District Surgeon Office

Verwysing/Reference: Medicolegal Clinic

Tel.: 725-4860/1/2/3 OR 725 2811

Faks/Fax: 725-4860 X 2253

Adres
Address: Gesondheidsdienste/
Health Services
Privaatsak/Private Bag X 21
JOHANNESBURG
2000

MEDICAL CERTIFICATE

RE: _____

This is to certify that the above patient was examined by me for medico legal purposes on _____.

Sick leave for the purposes of recovery and recuperation is recommended from _____ to _____.

Yours faithfully

NAME OF DOCTOR: _____

_____

DISTRICT SURGEON

JOHANNESBURG

DDENDUM

J

PROVINSIALE ADMINISTRASIE - GAUTENG
PROVINCIAL ADMINISTRATION - GAUTENG

Navrae/Enquiries: District Surgeon Office

Verwysing/Reference: Medicolegal Clinic

Tel.: 725-4860/1/2/3 OR 725 2811

Faks/Fax: 725-4860 X 2253

Adres / Address: Gesondheidsdienste/ Health Services
Privaatsak/Private Bag X 21
JOHANNESBURG
2000

The Station Commander

Date: _____

_____

_____

_____

RAPE CASE: MAS / CAS NUMBER _____

_____ laid a charge of rape with your station at ___h___ on ___/___/96. She was brought to the District Surgeon's Medicolegal Clinic at ___h___ on ___/___/96, a delay of approximately _____. This is obviously unacceptable, and we would appreciate your investigation into this delay. Please forward your findings to the Dr - in - charge, Medicolegal Clinic, at the above address.

_____ NAME OF DOCTOR: _____

_____
DISTRICT SURGEON
JOHANNESBURG

cc: INSP A. PIEKE, SAPS PUBLIC RELATIONS, BRAAMFONTEIN

ADDENDUM K

RAPE IN JOHANNESBURG: MEDICO-LEGAL CLINIC STATISTICS
To be completed at time of interview by Dr/Nurse

Police Station _____ Case No _____

Date of Rape _____ Time Rape _____

Date Reported to SAPS _____

Time reported to SAPS _____

Date Examined _____ Time Examined _____

VICTIM DETAILS

Race: B ☐ W ☐ C ☐ A ☐ Age _____

VICTIM-PERPETRATOR RELATIONSHIP

Perpetrator identity (1)Unknown ☐ (2)Spouse ☐

(3)Boyfriend ☐ (4)Ex-boyfriend ☐ (5)Relative ☐

(6)Friend ☐ (7)Knows by sight ☐

(8)Co-worker ☐ (9)Other ☐ (specify) _____

_____

Perpetrator race B ☐ W ☐ C ☐ A ☐

No. of Perpetrators _____

DETAILS OF THE RAPE INCIDENT

Was victim abducted? (Y)es ☐ (N)o ☐

If abducted, for how long? (1)<12 hrs ☐

(2)12-24 hrs ☐ (3)>24 hrs ☐

Place of rape (1)Victim's home ☐

(2)Rapist's home ☐ (3) Hotel room ☐

(4)Victim's car ☐ (5)Rapist's car ☐

(6)Open space ☐ (7)Public toilet ☐

(8)Alley ☐ (9)Transport terminus ☐

(10) Other ☐ (specify) _____

_____

Street address and suburb where rape took place

_____

Map code for address _____

INDEX OF VIOLENCE

Measure of violence (indicate all) (1)Verbal ☐

(2)Grabbed ☐ (3)Kicked ☐ (4)Hit ☐

(5)Throttled ☐ (6)Punched ☐ (7)Weapon ☐

(8)Other ☐ (specify) _____

If weapon, what types (indicate all) (1)Knife ☐

(2)Bottle ☐ (3)Firearm ☐ (4)Blunt (eg kerrie) ☐.

(5)Screwdriver ☐ (6)Other ☐ (specify) _____

_____

Weapon use (1)Threaten ☐ (2)Injure ☐

SEXUAL ACT PERFORMED AND SPECIMENS

Sexual act (indicate all) (1)Rape ☐ (2)Fellatio ☐

(3)Sodomy ☐ (4)Cunnilingus ☐

Specimens taken (indicate all) (1)Vaginal swab ☐

(2)Vag-slide ☐ (3)Anal/perineal swab ☐

(4)A/p slide ☐ (5)Other swab ☐

(6)Other slide ☐ (7)panties ☐ (8)other clothing ☐

(9)Blood ☐ (10)Fingernail scrapings ☐

(11)Pubic hair comb. ☐ (12)Pubic hair spec. ☐

(13)Head hair comb. ☐ (14)Head hair spec. ☐

(15)Saliva (16)Foreign objects ☐ (specify) _____

_____

(17)Other ☐ (specify) _____

AFTERCARE

Indicate all (1)Meds ☐ (2)POWA ☐ (3)CPA ☐

(4)GP ☐ (5)Clinic ☐ (specify) _____

(6)Hospital ☐ (specify) _____

(7)Other ☐ (specify) _____

BODY INJURIES

Focus (1)Body only ☐ (2)Genitalia only ☐

(3)Body and genitalia ☐

Description of injuries by body area

Head _____

_____

Upper limbs _____

_____

Ant. torso _____

_____

Post. torso _____

_____

Lower limbs _____

_____

BODY INJURY SCALE (/5)

Contusions _____ Abrasions _____

Lacerations _____ Fractures _____

BRUTALITY MEASURE

(1)Roughness ☐ (2)Non-brutal ☐

(3)Brutal ☐

GENITAL INJURIES

Indicate all (1)perineal tears ☐ (2) L. majora ☐

(3)perineal ☐ (4)L. minora ☐ (5)vaginal tears ☐

(6)vestibule ☐ (7)vaginal ☐ (8)hymen tears ☐

(9)Foreign. body ☐ (10)Hymen ☐

(11)PV bleeding ☐ (12) Fourchette ☐

(13)Threatened abortion ☐

(14)Other ☐ (specify) _____

_____

Total genital injuries (count) _____

OTHER OBSERVATIONS

_____

_____

_____

_____

_____

_____

Ref: d:\abdoc\rapestat.995

EXAMINATION OF RAPE VICTIM

Procedure followed: Record on J88

3.1 HISTORY
- threatened by weapon (injuries)
- of events to look for corroborating evidence
- fellatio, sodomy, foreign objects
- obstetric history
- last normal intercourse
- rapist ejaculated
- LMP
- contraception
- present VD or pregnancy
- illnesses, diseases, epilepsy, dizziness, vertigo, fainting spells
- medications
- events following attack - bleeding, pain, vag discharge, hygienic measures

3.2 EXAMINATION

3.2.1 Physical

- emotional and mental status (NB. w.r.t. ability to give consent)
- under influence of alcohol/drugs
- clothing i) intact or torn
  ii) trace evidence eg. fibres, hair, blood, dirt, grease

NB: to correlate with suspect, and scene of crime evidence, instruction to SAP in this regard.

iii) panties - very NB, d/t gravitational effect on seminal fluid.

- injuries: correlate with history, describe size, type, situation
  attempt made to ascertain cause and age
  defense wounds noted: elbows, ulna aspects of forearms, hands, fingers
  lips and mouth - mouth forcibly closed
  neck - fingers and fingernails
  breasts - contusions, abrasions, bite marks
  thighs (inner aspects) - fingers and fingernails
  back, buttocks, calves - struggle while lying on back
  eyes - haemorrhages (throttling)

- absence of external wounds does not exclude violent rape, fear and intimidation, use of weapon
- can come back in 24 hrs for re-examination for contusions not visible at 1st examination
- complainant not to wash/bathe, or change clothing prior to examination by District Surgeon
- note physical appearance w.r.t. age (> 16 yrs) for consent purposes

3.2.2 Genital

- Menstruation is not a contra-indication and in fact may provide clues if it has stained the clothing of the suspect, miss injuries/objects in vagina, abortions/infection
- presence of stains, soiling, foreign bodies
- foreign pubic hairs
  NB - to correlate with suspect, complainant and scene of crime
- Injuries - caused not only by forceful penetration of penis, but also with foreign objects, fingers, weapons
  Large sexual organ disparity depends on sexual status of woman:
  virgin
  not sexually active
  sexually active
  numbers of deliveries

a) Vulva

Note development
swelling, redness, bruises, lacerations, tenderness
? abn. discharges

b) Labia majora

Note the inner aspects of the labia, injuries here are frequently caused by the assailants fingers.
If there is large sexual organ disparity present eg. in a child, then may have injuries to post commissure, perineum, and rectum.
In the virgin the labia majora are rounded, firm and completely close the vaginal orifice. Posteriorly they are joined by the post commissure, often torn at first intercourse.

c) Hymen

Note type
tears evident - how many
- where situated
- extension to vaginal wall
other injuries at hymenal orifice eg. bruising

There are more than 100 different types of hymen, however more than 90 % of women have the annular type.

Size of intact opening: infancy - small swab
10 yrs - tip of small finger
puberty - one small finger
adult virgin - one average adult finger
(undue dilatation may occur in virgins who use tampons)
nulliparous non-virgin-two average adult fingers
previously borne child-usu. stretch to 3 fingers

Hymenal tears:
- can bleed for up to 5 days after fresh tear
- macroscopic healing noted after 18 hours
- complete healing after 4-5 days, then leaves a scar
- hymenal tears are always recognizable after tear until following childbirth
- post. forchette tears leave a linear scar for decades

Note: Full penetration by penis and even repeated sexual intercourse may not necessarily lacerate hymen.
Cause of laceration need not be penis.
Hymen may be absent - elderly, repeated intercourse, multiple births, congenital absence

d) Fourchette

Examine for tears.
Frequently tears even by drawing the labia well apart.
It also usu. tears at first intercourse.

e) Perineum

Note any tears, or other injury

f) Vagina

If necessary to examine vagina then a speculum must be used. NOT DONE if:
1. complainant is a virgin
2. fresh tears of hymen are present

Examine vaginal walls - laceration
- bruising

A torn hymen might cause slight tearing of the vaginal wall.

Deeper and serious tears - forceful penetration
- organ disparity

Estimate number of fingers
Note any inflammation/discharge/seminal fluid - take swab specimen from sighted area
Perform speculum exam. before P.V. to prevent contamination from lubricants.

3.2.3 Interpretation

1. Children - usually minimal or very extreme
   (a) minimal/absent if only "legal penetration" occurs
   (b) Full penetration of penis - tearing and damage to tissues, severe, may endanger life
   (c) body injuries usually absent due to lack of resistance
   (d) reddening of genitalia may be due to poor hygiene - but positive sperm sample, or presence of STD points to sexual interference

2. Teenagers/Adults - no sexual intercourse, not regular with few occasions, no deliveries.
   Vagina is relatively non-elastic thus high incidence of injuries may be found
   (a) hymen - usually tears posteriorly, usually in more than 1 place, and into vaginal wall
   (b) surrounding tissues inflamed and swollen
   (c) usually bodily injuries - NB threats

3. Adults - regular sexual intercourse, numerous deliveries. Vagina is elastic, relatively enlarged, walls relaxed.
   (a) usually no injuries of genitalia - except with extreme violence, use of fingers, foreign objects, gang rapes.
   (b) bodily injuries may be found

4. Elderly - senile and atrophic changes present hence incidence of injury high.

3.2.4 Points to remember

1. Self-inflicted injuries:
   Carefully scrutinize all wounds to correlate with victim's statement of how sustained, and assess feasibility eg. scratches - look for direction of skin tages, neck injuries, and bruises.
   Self-inflicted genital injuries are possible, and would usually only include - hyperaemia of area
   - abrasions
   - scratches
   Very rare to have perforation of the hymen, vaginal injuries, or post. fourchette injuries.

2. Object of causation:
   Bearing in mind the legal definition of rape, one must assess the genital injuries with a view to possible objects used. If the injuries are particularly severe in nature, it is highly unlikely that they were caused by the assailants hands.
   If minimal eg. torn hymen and minimal tear of fourchette, could have used finger.
   In these cases the sperm sample will point towards the male organ having been used, however a negative sample does not negate the point.

3. 'Fit of passion' injuries:
   Are possible, but with reservation, minor injuries only.

4. Influence of alcohol and narcotic drugs:
   With advanced intoxication CNS depression occurs to such an extent that although sexual urge is is present, impotence will occur. If the assailant had an erection then he could not have been so intoxicated as to not remember the incident. Alcohol and dagga have the same effect on CNS w.r.t. impotence, they are both depressants and thus one loses the inhibitions which would ordinarily stop one from committing a crime. They also heighten the basic urges/instincts.

5. Sperm Specimen:

Absence of spermatozoa

Does not exclude the possibility of rape, because:

1.	Time	- max. survival period considered 72 hrs.
2.	Technique	- vaginal swabs hit - and - miss
3.	Drainage	- due to gravitational forces, increased with menses
4.	Migration	- out of vagina
5.	Disintegration	- by hostile vaginal flora/spermaticides
6.	Sperm count	- low count, non.motile
7.	Scrotal temp	- if increased can kill mature sperm
8.	Vasectomy	- ejaculation devoid of sperm
9.	Antibodies	- produced by women
10.	Ejaculation	- outside vagina
11.	Condom	- used by assailant
12.	Necrospermia (dead/motionless sperms)	- alcoholism, drugs, diabetes, - infection, ph seminal fluid less than 6.
13.	Hygiene measures	- bathing, douching, vag. tampon after rape

Presence of spermatozoa

1. In adults means that the complainant had intercourse at a time prior to examination, does not implicate the accused.

2. In children more positive link with the activities of the accused.

3. SPECIAL EXAMINATIONS

1. Vaginal specimens:
can be taken with sterile throat swab from vulva, labia, vagina and posterior fornix of vagina. Each area will be marked seperately. A prepared slide is made from each swab.
Tested for (a) presence of spermatozoa
(b) acid phosphatase
(c) blood group determination
(d) DNA

2. Other swab/slide specimens:
any area contaminated with seminal fluid eg.
inner aspect of thighs, perineum, anus, oral cavity, lips, frontal and temporal areas of forehead (fellatio).

3. Hair:
   pubic hair combings - any foreign hairs/fibres etc
   pubic hair from victim
   head hair
   body hair
   taken from complainant for comparison with hair from suspect, as well as those found at scene of crime.

4. Blood:
   taken from complainant for grouping,
   drugscreen/alcohol level (if indicated), DNA grouping.
   - for identification of sources of bloodstains on complainant/suspect
   - identification of any other stains
   from suspect for above comparisons

5. Fingernail scrapings:
   can be identified by microscopic examination, and DNA applied techniques.

6. Clothing:
   any item of cloting with stains collected and sent for analysis, especially NB is panties.

   These specimens are collected in specially prepared crime kits provided by the SAP from the Forensic Science Laboratory (PTA). For use in the victim there are crime kit 1 - for complete evidence, and crime kit 3 - for vag. swab/slide only. Collection of all evidence at first presentation prevents the victim undergoing needless additional inconvenience and further mental anguish.

ANTIBIOTICS FOR USE IN MEDICOLEGAL CLINIC

I ADULTS

TARIVID

Ofloxacin	400mg stat
Indications:	STD's - acute uncomplicated urethral and cervical gonorrhoea, urethritis and cervicitis due to Chlamydia trachomatis. Mixed infections of the urethra and cervix due to Chlamydia and N. Gonorrhoea.
Contra-indications:	1. Hypersensitivity 2. Pregnant and lactating women 3. Cerebral convulsive disorders 4. Children
Side-effects:	1. Allergic reactions 2. CNS effects, muscular coordination disturbances, visual and sensory disturbances, hallucinations, epilepsy, convulsions, psychotic reactions 3. Blood dyscrasias 4. GI disturbances 5. Muscle and joint pain
Special precautions:	1. Impaired renal function 2. Elderly 3. Strong sunlight 4. Pseudomembranous colitis
Drug Interactions:	Mineral containing antacids/iron preparations may impair absorption.

FLAGYL

Metronidazole	2g stat
Indications:	For treatment of anaerobic infections, trichomonal vaginitis and non-specific vaginitis.
Contra-indications:	1. Hypersensitivity to ingredients 2. Pregnancy
Side-effects:	1. Metallic taste, furred tongue 2. GI disturbances 3. Dry mouth and vagina, dysuria 4. CNS disturbances - drowsiness, disorientation, headache, vertigo 5. Angioneurotic oedema, flushing 6. Peripheral neuropathy 7. Decrease in Blood Pressure
Warnings:	AVOID ALCOHOL

Drug Interactions:
1. Phenobarbitone decreases ½ life
2. Enhances the effect of Warfarin and other anti-coagulants

DOXYCLIN

Doxycycline — 100mg b.d. x 10 days

Side-effects:
1. GI disturbances
2. Nail discloration/tooth discloration
3. Dermititis, vaginitis, blood dyscrasias
4. Allergic rxns

Special precautions:
1. Photosensitivity
2. Renal impairment
3. pregnancy, neonates, children

Drug Interactions:
1. Al. hydroxide gel decreases absorption

II CHILDREN

PURMYCIN .125

Erythromycin suspension. 30 mg/kg/day in divided doses. Severe infections may be doubled.

Contra-indications:
1. Impaired liver function

Side-effects:
1. GI disturbances
2. Hypersensitivity rxns
3. Cholestatic hepatitis

Special precautions:
1. Avoid concommitant chloramphenicol/thiamphenicol.

LENOCEF

Cephalexin oral suspension

Dosage: Children over 12 yrs - 500 mg. t.d.s.
5-12 yrs - 250 mg. t.d.s.
1- 2 yrs - 125 mg. t.d.s.
under 1 yr - 125 mg. b.d.

Side-effects:
1. GI disturbances
2. Reversible nutropenia and eosinophilia
3. Skin rash, anaphylaxis

Special precautions:
1. Penicillin cross sensitivity
2. Renal impairment

FLAGYL

Metronidazole suspension 200 mg/5 ml

Dosage children:

7 - 10 yrs	100 mg.	t.d.s.	x 7 days
3 - 7 yrs	100 mg.	b.d.	x 7 days
1 - 3 yrs	50 mg.	t.d.s.	x 7 days

give patient a syringe for accurate dosage.

Indications: For treatment of anaerobic infections, trichomonal vaginitis and non-specific vaginitis.

Contro-indications:
1. Hypersensitivity to ingredients
2. Pregnancy

Side-effects:
1. Metallic taste, furred tongue
2. GI disturbances
3. Dry mouth and vagina, dysuria
4. CNS disturbances - drowsiness, disorientation, headache, vertigo
5. Angioneurotic oedema, flushing
6. Peripheral neuropathy
7. Decrease in Blood Pressure

Warnings: AVOID ALCOHOL

Drug Interactions:
1. Phenobarbitone decreases ½ life
2. Enhances the effect of Warfarin and other anti-coagulants

III OTHER

BETADINE VAGINAL DOUCHE

Povidone iodine 10 ml. diluted in applicator daily, not to exceed 14 days continuously

Indications:
1. Trichomonal, monilial, bacterial and non-specific vaginitis
2. Cleansing and deodorising douche

Contra-indications:
1. Allergy to iodine
2. Pregnant or lactating women
3. Patients with non-toxic colloid goitre

Side-effects:
1. Povidone-iodine sensitivity may develop
2. Irritation, discomfort, redness, swelling

Special precautions:
1. May interfere with TFT's.

GYNO PEVARYL OVULES AND DEPOT

Econazole nitrate	150mg ovules 1 nocte x 3 nights, 150mg depot x1
Indications:	Vulvo-vaginal mycoses, mycotic balanitis
Side effects:	Possible local irritation
Special precautions:	Treat partner locally for 2 weeks with cream

CANESTEN 1

Clotrimazole	Vaginal tablet 500mg, 1 nocte
Indications:	Vag. itch, burning & discharge assoc. with vag. candidias
Contra-indications:	1st trimester pregnancy
Side effects:	Loc. rxns., contact allerg. dermatit., in system. absorption low. abd. cramps, urine frequency skin rash
Special precautions:	Not during menstr. if poss., treat partner loc. with cream

GYNO-TROSYD

Tioconazole	Vag. tab. 100mg, 1 nocte x 3 nights
Indications:	Vag. candidiasis
Side effects:	Local irritation

KEFLEX & FEXIN

Cephalexin	Tabs. 500mg, 1 bd x 5 days Gran. for susp. 125mg/5ml, 25-50mg/kg/day qid
Indications:	Suscept. genitourinary tract infections
Side effects:	GI disturbs., allerg. rxns., anaphylaxis, genit. & anal pruritis, dizz., fatig., bld. dyscras., super-infec., convuls., toxic psychosis
Special precautions:	Imp. ren. func., penicill. cross sensitivity

ERYTHROMYCIN (E-MYCIN)

Erythromycin stearate	Tabs. 250mg, 2 tds x 5 days Granules for susp. 125mg/5ml, 50mg/kg/day qid
Indications:	Suscept. GUT infec., Chlamydia, L.G.V., Chancroid
Contra-indications:	Imp. liver func.
Side effects:	Allerg. reacts., anaphylaxis, GI disturbs., cholestat. hepatit., jaundice, pseudomembr. colitis
Special precautions:	Imp. liver func., coumar. type anti-coag. therapy
Drug interactions:	Incr. prothrombin times with chr. coumar. anticoag. incr. serum theophyllin levels, eff. of carbamazepine, corticosteroids & digoxin

POST-COITAL CONTRACEPTION

1. The Yuzpe method is used in the clinic ie. levonorgestrel 0,5mg plus ethinyl oestradiol 0,05mg x2 tablets within 72 hours of the rape followed by 2 tablets exactly 12 hours later.

2. If the rape occured more than 72 hours previously refer to family planning clinic, hospital, gynaecologist etc. for alternative method of post-coital contraception ie. insertion of IUCD (which can be done within 5 days of rape) or for follow up in case of pregnancy.

3. RISKS OF PREGNANCY

   Is treatment indicated?

   a) One midcycle exposure: - risk 10-30%. At other times less than 10%. Significant risk day 9 - 17 of 28 day cycle (correct for cycle length). Some say day 7 - 17 as sperm survivial very unpredictable.

   b) Decision to treat depends on many circumstances, including woman's level of anxiety. Very NB in circumstance of rape.

4. FAILURE OF TREATMENT

   a) Ectopic pregnancy risk with both methods - if used post-fertilization.
   b) Failure rate 1 - 3% approx.
   c) Risk of birth defects is unknown but small, probably less than of OC-taking through early pregnancy. Estimate is less than 1 in a 1000. Compared with random risk of birth defect = 20 in a 1000 (2%).

5. CONTRA-INDICATIONS

   a) Accepted c/i to combined OC's.
   b) Exclude pregnancy.
   c) Past ectopic pregnancy = a strong relative c/i.
   d) Woman's uncertainly re ethics of this intervention which is always pre-implantation, but sometimes post-fertilization. Relative c/i in rape.

6. Warn patient re nausea, possibly vomiting. If either 1st or 2nd dose vomited within 3 hours, she should contact the clinic, consider giving 2 extra tablets or referral for insertion of IUCD.

7. Advise patient to go for follow-up examination about one week after expected onset of next period (NMP) - ie. usually 3 weeks. With Yuzpe method NMP in fact often comes early. Referral to a family planning clinic or gynaecologist is best in this regard.

APPENDIX E

Patient Name: ..... Folder No.: .....

Protocol for management of women arriving at Groote Schuur Hospital with complaint of rape:

1. All women arriving at Groote Schuur Hospital casualty or trauma unit must be referred to the gynaecological registrar on call, regardless from which drainage area she comes.

2. **Under no circumstances is any woman to be turned away to seek help at another institution.**

3. All rape survivors are to be interviewed by the gynaecological registrar on call in a private room. It is advisable that a nurse attend the interview between the doctor and the patient.

4. Establish whether the woman has reported the matter to the police.

5. If not, discuss the advantages and disadvantages of reporting the rape and establish whether she wishes to report the rape or not.

6. If she does, phone the police station **in the area in which the rape occured** or the Child Protection Unit if under 15 and ask them to come to the hospital to take a statement from the patient. Currently facilities for district surgeon examination of the patient exist at Somerset Hospital, Conradie Hospital and Victoria Hospital. The option of being examined by the district surgeon should be explained to the patient. If she is either too traumatised or reluctant to be transferred to another hospital the forensic examination should be performed by the Gynaecology registrar as per GSH rape protocol.

7. If the police are not able to come to the hospital within 2 hours of being contacted then the forensic examination should be performed by the gynaecological registrar on call as per the Rape Protocol of Groote Schuur Hospital.

8. NOTE: The district surgeon only examines patients who have already reported the matter to the police. Once reported it is the responsibility of the police to take the woman to the appropriate district surgeon. However women may present to Groote Schuur Hospital under the following circumstances:

   a) if she belongs to the GSH drainage area

   b) if she 'walks in' to the hospital for whatever reason

   c) if she has sustained serious injuries

   In the circumstances a + b the woman should be immediately referred to the Gynaecology registrar on call who will discuss her options with her and perform the forensic examination per protocol, including a clear explanation of each aspect of examination and treatment and its rationale.

   If the woman has sustained serious physical injuries she should be taken to the Trauma Unit for diagnosis and management of her injuries. Once she has been stabilised the Trauma Unit staff will call out the Gynaecology registrar on call to perform the gynaecological and forensic examination. Under NO circumstances should an injured woman be referred to another hospital for assessment.

9. If the woman declines to report the matter to the police, the gynaecological registrar should still perform the full forensic examination of the woman in case she changes her mind. She should be informed that the evidence collected will be kept for 72 hours, after which it will be destroyed unless she lays a complaint with the police.

10. If a woman declines the forensic examination, this choice should be respected and no undue pressure exerted upon her, other than to ensure that she understands the implications of not reporting the incident.

11. All forensic specimens are to be locked away in a designated cupboard in casualty and the Rape Protocol form delivered by hand to the medical superintendent in charge of Obstetrics & Gynaecology at E11A, Hospital Street. A special envelope marked 'private and confidential' has been provided for this purpose.

12. NOTE: Routine clerking notes of the patient should be kept in the patient's folder.

13. Women should be given the option of going for counselling to:

- Gynae Social Worker
- C23 / Psych OPD
- Rape Crisis
  (See appendix)

Patient Name: ..... Folder No.: .....

Groote Schuur Hospital
Rape Clerking Sheet

Name: .....

Folder No: .....

Date of examination: ..... / ..... / .....

Time of examination: ..... h .....

Examination performed by: (give name)

1. District Surgeon: .....
2. Gynaecology Registrar: .....
3. Gynaecology Consultant: .....
4. Trauma Unit Doctor: .....

Patient Name: ..... Folder No.: .....

Consent

Authorisation for collection of evidence and release of Information:

I hereby authorise Groote Schuur Hospital and Dr _____ to collect any blood, urine, tissue or any other specimen needed and to supply copies of ALL medical reports, including laboratory reports to the South African Police.

Person examined: ....
(print name) (signature)

Witness: ....
(print name) (signature)

Parent/guardian: ....
(print name) (signature)

Date: ..... / ..... / .....

Patient Name: ..... Folder No.: .....

History

Date of alleged rape: ..... / ..... / .....

Time of alleged rape: ..... h .....

Date of examination: ..... / ..... / .....

Time of examination: ..... h .....

Perpetrator/s

Number	☐	Acquaintance	☐	Co-worker	☐
Unknown	☐	Spouse	☐	Boyfriend	☐
Ex-boyfriend	☐	Relative	☐	Friend	☐

Other: (Specify) .....

.....

Details of alleged rape incident

Place of Rape:

Victim's Home	☐	Rapist's Home	☐	Work Place	☐
Motor Car	☐	Beach	☐	Open Space	☐
Public Toilet	☐	Alley	☐	Terminus	☐

Other: (Specify) .....

.....

Street address & suburb where rape took place: .....

.....

Measure of Violence Used

Verbal	☐	Grabbed	☐	Punched	☐
Hit	☐	Throttled	☐		
Weapon used	☐	Kicked	☐		

Other: (Specify) .....

.....

If weapon used, specify what type:

Knife ☐ Bottle ☐

Gun ☐ Screwdriver ☐

Other: (Specify) .....

.....

Personal history

Gynaecological History:

Age: ..... Gravidity: ..... Parity: .....

LNMP: ..... / ..... / .....

LMP: ..... / ..... / .....

Cycle: ..... / .....

Pregnant now?: Yes ☐ No ☐

If yes, gestational age: .....

Current Contraception Usage:

O.C.: Yes ☐ No ☐

If yes, type: .....

Injectable: Yes ☐ No ☐

Date last injection: ..... / ..... / .....

IUCD: Yes ☐ No ☐

Date insertion: ..... / ..... / .....

Coitus within 72 hours rape: Yes ☐ No ☐

If yes, date: ..... / ..... / .....

Time: ..... h .....

Condom used: Yes ☐ No ☐

Patient Name: ..... Folder No.: .....

Does patient practice douching? Yes ☐ No ☐

Sexual acts performed during rape:

Vaginal penetration	Yes ☐	No ☐	Unknown ☐
Fellatio	Yes ☐	No ☐	Unknown ☐
Sodomy	Yes ☐	No ☐	Unknown ☐
Cunnilingus	Yes ☐	No ☐	Unknown ☐

Since rape, has patient:

Douched	Yes ☐	No ☐	Unknown ☐
Bathed	Yes ☐	No ☐	Unknown ☐
Urinated	Yes ☐	No ☐	Unknown ☐

Was patient conscious throughout the rape? Yes ☐ No ☐

If no, specify details: .....

.....

Prior to alleged rape had patient consumed alcohol, drugs or any medications? Yes ☐ No ☐

If yes, specify what: .....

.....

General Medical History: .....

.....

.....

.....

.....

General Surgical History: .....

.....

.....

.....

.....

Allergies (note antibiotics): .....

.....

Patient Name: ..... Folder No.: .....

Current Medication: .....

.....

Habits: .....

.....

History taken by: .....

Designation/Qualifications: .....

Patient Name: ..... Folder No.: .....

Physical Examination

General appearance of woman: .....

.....

.....

Appearance & description of clothing, including underwear etc: .....

.....

.....

.....

NOTE: All clothing to be kept in separate paper bag for forensic tests

Emotional status (describe eg: withdrawn, crying, calm, hysterical etc): .....

.....

.....

.....

Evidence that woman under influence of alcohol/drugs: Yes ☐ No ☐

If yes, describe condition: .....

.....

Speech: .....

Gait: .....

Temperature: ..... Pulse: ..... BP: ..... HB: .....

Pregnancy test: Positive: ☐ Negative: ☐

CVS/RS: (note any abnormality detected): .....

.....

.....

Head and neck examination (tick box if abnormality detected):

Check eyes for haemorrhages (throttling) Yes ☐ No ☐

Describe: .....

.....

Mouth & Lips (abrasions/bruising/cuts): Yes ☐ No ☐

Describe: .....

.....

Scalp (lacerations etc): Yes ☐ No ☐

Describe: .....

.....

Neck (bruises/lacerations etc): Yes ☐ No ☐

Describe: .....

.....

Other: .....

.....

Body:

Bruises/scratches/lacerations/abrasions: Yes ☐ No ☐

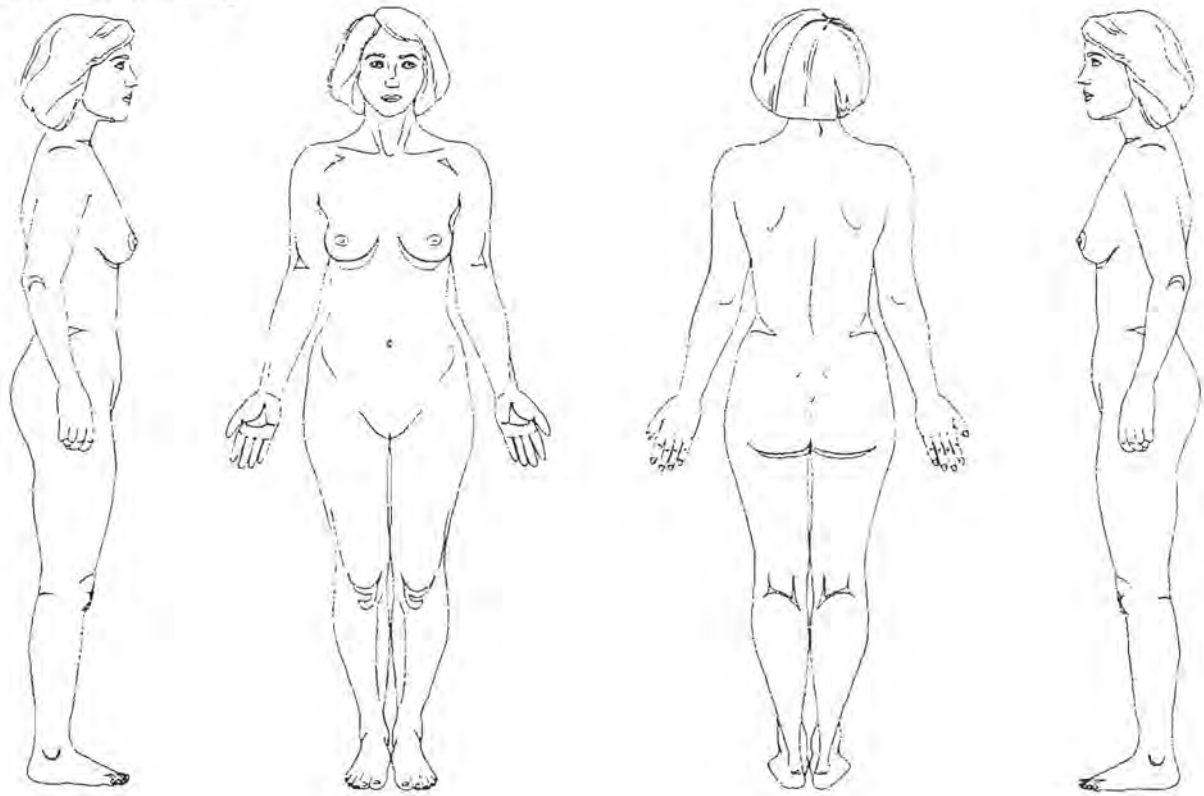
Indicate which of the above: .....

Size: .....

Number: .....

Location (note on anatomical drawing): .....

Anatomical Drawing:



Patient Name: ..... Folder No.: .....

Injuries:

Elbows	Yes ☐	No ☐
Ulna aspect of forearms	Yes ☐	No ☐
Hands	Yes ☐	No ☐
Fingers	Yes ☐	No ☐
Fingernails	Yes ☐	No ☐
Breast (especially bite marks)	Yes ☐	No ☐
Thighs (especially inner aspects)	Yes ☐	No ☐
Back, buttocks, calves (struggle while lying on back)	Yes ☐	No ☐

Other (describe details noted above): .....

.....

.....

.....

.....

.....

Genital examination:

Vulva:

Swelling	Yes ☐	No ☐
Redness	Yes ☐	No ☐
Bruises	Yes ☐	No ☐
Lacerations	Yes ☐	No ☐
Tenderness	Yes ☐	No ☐
Bleeding	Yes ☐	No ☐
Discharge	Yes ☐	No ☐

Other (specify): .....

Describe in detail any of lesions noted above: .....

.....

.....

.....

.....

.....

Special areas for attention:

Labia Majora/Labia Minora:

Inner aspects of the labia (may be injuries from assailant's fingers): .....

.....

.....

.....

Check **posterior commissure, perineum and rectum** for tears/bruises:

Describe in detail: .....

.....

.....

.....

Check **hymen** (need good light and examine hymen through 360°)

- Note shape
- Tears (look for extension to vagina)
- Bruising
- Size of vaginal opening (whether admits 1, 2 or 3 fingers with ease or with difficulty)

Describe findings below: .....

.....

.....

.....

.....

.....

Check **vagina** (preferably use plastic speculum and good light - do not use if painful, a virgin or presence of obvious trauma to vulva and hymen eg. tears):

- look for tears
- seminal fluid
- discharge
- bleeding

Describe findings below: .....

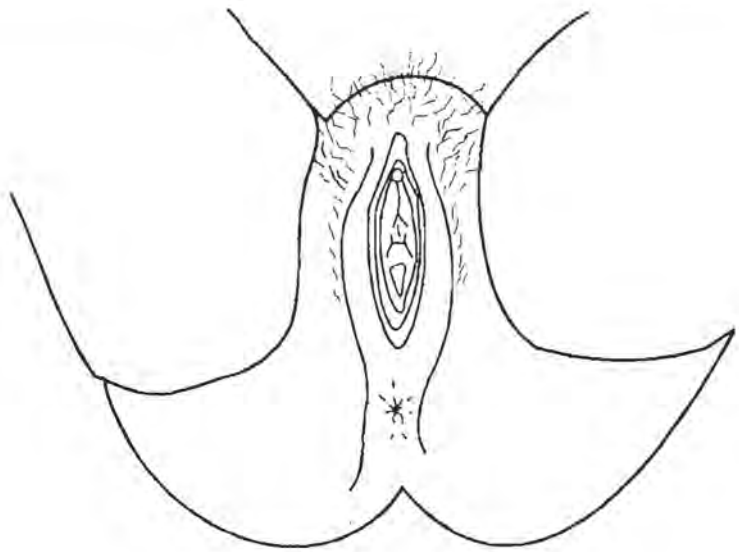
.....

.....

.....

.....

.....



Specimens to be collected (see crime kits 1 & 3)

- **Vaginal specimens:**

1. use sterile pus swabs
2. take swabs from vagina / vulva / perineum **before** + **after** insertion of speculum (mark separately)
3. specimen placed on dry slide and allowed to dry
4. label each slide
5. place each slide in separate envelope and indicate site from which specimen taken as well as patient's name, folder number, time and date of taking specimen

Specimens will be examined for:
presence of sperm
acid phosphatase
blood group determination
DNA

- **Other swab/slide specimens:**

any area contaminated with seminal fluid eg. inner aspect thighs, perineum, anus, oral cavity, lips, frontal and temporal areas of forehead

- **Hair**

1. pubic hair combings
2. pubic hair to be cut with scissors and pulled from roots
3. head hair

Specimens taken to compare with hair from suspect, as well as those found at scene of crime. Each specimen to be placed in separate envelope and labelled appropriately (see above).

- **Blood**

1. blood grouping of victim
2. drug/alcohol/toxicology screen if indicated (need special sodium fluoride/Calcium oxalate tubes)
3. DNA testing of victim (use EDTA tube)
4. for VDRL/ HIV (with patient's consent)

- **Fingernail scrappings**

1. either scrape beneath fingernails or cut fingernails
2. specimens used for DNA testing

- **Clothing**

1. as already indicated, clothing may provide valuable forensic evidence, especially underwear

- Consider asking police photographer to come out with woman's consent

Fill out J88 form.

Treatment of Woman

- Immediate assessment and treatment of injuries.
- Treat for:

  1. **pregnancy prevention**

     2 ovral 28 stat and again 12 hours later - provide anti-emetic and inform patient of side-effects if rape < 72 hours prior to treatment or

     insert IUCD if > 72 hours and < 7 days

  2. **sexually transmitted diseases**:

     ciprofloxacin 250mg po stat dose
     doxycycline 100mg b.d. for seven days
     metronidazole 2g stat (warn re alcohol intake)

  3. Consider AZT prophylaxis against HIV transmission if rape occured less than 6 hours previously in individual cases (contact Dr Gary Maartens, bleep 1306 for permission to prescribe AZT - ALL HOURS)

- If between 08H00 and 17H00 refer to social worker on call. After hours provide immediate counselling, admit patient to ward if necessary or ask woman to return to hospital next morning.
- Give phone number for Rape Crisis (Mowbray: 471467/479762 or Khayelitsha: 3619085).
- NOTE: If no bruises noted consistent with the woman's history, then she should be re-examined in 48 hours to reassess the extent of injuries that may not be immediately apparent.

Post treatment Referral Options

- **Gynaecology Outpatients**

  1. For results of VDRL and HIV
  2. Assessment of medical and emotional condition and need for psychiatric or other referral
  3. Contraception Counselling

- **Family Planning Clinic**
- **Rape Crisis**

  1. Social Worker at Gynae
  2. C23 if extremely upset or in shock

Patient Name: ..... Folder No.: .....

Protocol for examination of sodomy victim

1. Take specimens with pus swab from area around and in the anus before any manual or instrument examination

2. Visual inspection of anus may show:

   - Mucosal surface which is smooth, stretched and with no normal folds or rugae (chronic).
   - Thickening of mucosa (chronic).
   - Fissures and/or lacerations: fresh, recent, signs of healing or scarring (indicating nature of abuse i.e. once, few occasions or chronic).
   - Depression of the anal ring with a funnel-shaped appearance and/or mucous membrane may protrude (chronic).

3. Digital examination:

   - Anal sphincter may show loss of elasticity or tone
   - Examination may be comfortable or very painful
   - Apply bilateral manual traction by placing thumbs on either side and pulling laterally. In typical chronic case the sphincter conspicuously relaxes and the anal ring enlarges.

4. Note any foreign material or discharges in the anal area eg. foreign hairs and/or seminal fluid

5. Anal tears may be extensive and there may be considerable haemorrhage. If force has been used the anus will be tender and swollen with bruising and tearing of the anal mucosa.

6. Note any injuries in the region of the buttocks, thighs and back.

7. Fill out Groote Schuur Hospital Rape Protocol form and J88.

8. Notify police and district surgeon as per usual rape protocol.

D 2

GROOTE SCHUUR HOSPITAL

☎ 404 —
℡ "GROOTHOSP"
FAX (021) 404-4248
REPLY TO:
SKRYF AAN: MED. SUPERINTENDENT

GROOTE SCHUUR-HOSPITAAL

OBSERVATORY,
CAPE/KAAP 7925
REP. SOUTH AFRICA/SUID-AFRIKA

SECTION/
SEKSIE

REF./VERW.

DATE/
DATUM

To: Family Planning Clinic

Please assist ..... with a follow-up consultation. She was given the Yuzpe method of post-coital contraception. Please offer her whatever examination and contraceptive counselling you deem necessary.

Yours sincerely

Gynaecology Registrar on call
Groote Schuur Hospital

D 2

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Rape Crisis
23 Trill Road
Observatory
7925

Dear Counsellor

Please assist ....., aged ..... She was raped on ..... at ....., and was examined at Groote Schuur Hospital on ..... at ..... h .....

The necessary documentation and forensic examination has been completed. She has/has not been treated for pregnancy prevention and prevention of sexually transmitted diseases. The matter has/has not been reported to the police.

Please offer whatever counselling service you deem necessary.

Yours sincerely

Gynaecology Registrar on call
Groote Schuur Hospital

) 2

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DATE/
DATUM

Medical Certificate

Re: .....

This is to certify that the above patient was examined by me on:

.....

Sick leave for the purposes of recovery and recuperation is recommended from:

..... to .....

Yours sincerely

....

Signature Qualification

.....

Name in full of attending doctor

2

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SECTION/
SEKSIE

REF./VERW.

DATE/
DATUM

Police Officer
South African Police Service

Dear Sir/Madam

This is to certify that (name of patient) ..... presented to Groote Schuur Hospital at .....h..... on (date) ...../...../..... with a complaint that she was raped. A forensic examination was performed by me on (date) ...../...../..... at .....h..... at Groote Schuur Hospital. The documentation and forensic evidence is currently in the Casualty section of Groote Schuur Hospital and is obtainable through the senior sister on duty.

Yours sincerely

Registrar/Consultant on call (sign and print name)
Contact telephone number: .....
Bleep number: .....