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Genital and anal injuries: A cross-sectional Australian study of 1266 women alleging recent sexual assault

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ABSTRACT

Objectives: To describe the frequency of genital and anal injury and associated demographic and assault characteristics in women alleging sexual assault.
Design: Cross-sectional study.
Setting: Sexual Assault Resource Centre (SARC), Western Australia.
Participants: Total of 1266 women attending SARC from Jan-2009 to Mar-2015.
Methods: Women underwent a standardised data collection procedure by forensically trained doctors. Multivariate logistic regression analyses were performed.
Main outcome measures: (1) Frequency of genital and anal injuries by type of sexual assault. (2) Identification of independent factors associated with genital and anal injuries following, respectively, completed vaginal and anal penetration.
Results: Genital injury was observed in 24.5% of all women with reported completed vaginal penetration; in a subset with no prior sexual intercourse 52.1% had genital injury. Genital injury was more likely with no prior sexual intercourse (adjusted odds ratio [adj. OR] 4.4, 95% confidence interval [95%CI] 2.4–8.0), multiple types of penetrants (adj. OR 1.5, 95%CI 1.0–2.1), if general body injury present and less likely with sedative use and delayed examination. Anal injury, observed in 27.0% of reported completed anal penetrations, was more likely with multiple types of penetrants (adjusted OR 5.0, 95%CI 1.2–21.0), if general body injury present and less likely with delayed examination.
Conclusion: This study separately quantifies the frequency of both genital and anal injuries in sexually assaulted women. Genital injuries were absent in a large proportion of women regardless of prior vaginal intercourse status. It is anticipated that findings will better inform the community, police and medico-legal evidence to the criminal justice system.
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1. Introduction

The presence of general body injuries has been associated with higher rates of laying charges [1] and prosecution of sexual assault [2–5]. Conviction rates are also higher in women who sustain genital injuries following sexual assault. In a large 2009 South African study [6] both general and genital injury were strongly associated with conviction. Although historically some courts have relied upon the presence of genital injury to “prove” sexual assaults [7], it is well recognised that genital injury is not seen in the majority of women following sexual assault.

In providing expert testimony to the courts it is important to have access to separate prevalence estimates for genital and anal injuries following, respectively, non-consensual vaginal or anal penetration. There are a number of reports in the literature concerning the prevalence of genital injury following alleged sexual assault. Unfortunately, the variety of examination/visualisation techniques, participant inclusion criteria and injury definitions used by many of these studies make them difficult to apply in the Australian setting. In Australia, macroscopic (naked eye) examinations are routinely used to detect genitoanal injuries following sexual assault and genital redness and/or swelling are

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considered non-specific findings and excluded from genital injury definitions. Of the 85 studies of genital injury prevalence data reviewed by Lincoln et al. in 2013 [8] only fifteen used 'naked eye' macroscopic examination [4,7,9–19]. Only six of these separated genital injuries from anal/peri-anal injuries [4,11,14,15,19,20] and only three of the six [4,19,20] excluded genital redness and/or swelling as an injury.

The aim of this study was to determine the frequency of both genital and anal injuries in women attending a sexual assault service according to the nature of the sexual assault (i.e. completed penetration vs attempted vs unknown). We also sought to determine which demographic and assault characteristics were associated with the detection of genital injuries in women with completed vaginal penetration and with anal injuries in those women reporting completed anal penetration.

2. Methods

2.1. Definitions

Alcohol use refers to alcohol consumed in the 6 h period prior to the assault.

Anal injury included injury to the perianal region, anus and rectum.

Assailant types were categorized as stranger, intimate partner, acquaintance/friend, accidental acquaintance (known <24 h), unknown (no memory), relatives and other (including work colleagues and carers). Intimate partner included current and ex-partners (including husbands, de factos and boyfriends).

Current mental illness was based on the patient's self-reported history and included psychotic (e.g. schizophrenia, bipolar disorder) and non-psychotic (e.g. anxiety, depression) disorders.

General body (non-genitoanal) *injury* included injuries found on the head (scalp/hair, eyes, ears, facial), mouth (lips, teeth and oral cavity), neck, torso (chest, breasts, upper back, abdomen, lower back and buttocks), arms (inner upper arms, remainder of arms, hands, and fingernails), and legs (inner thighs, remainder of thighs, lower legs, feet, knees).

Genital injury included injuries on the mons pubis, internal/external genitalia and perineum (Fig. 1).

Indecent assault was a sexual act without consent in the absence of completed or attempted penetration.

Injury types included bruises, abrasions, lacerations, incised wounds, penetrating (stab) wounds and burns. Redness and/or tenderness were not included due to their non-specific nature. Injuries considered by the forensic clinician to be self-inflicted were excluded.

Non-prescribed sedating agents include cannabinoids (marijuana & synthetic), opiates (heroin) and benzodiazepines.

Sexual assaults included in this study were completed or attempted penetration of the patient's vagina or anus by a penis, finger, hand or object without their consent. The nature of the penetration was classified as unknown if the patient suspected sexual assault but had no or incomplete memory of the incident.

Stimulants include amphetamine, ecstasy, cocaine (there were no hallucinogens in this cohort).

Type of penetrant refers to the body part or object that is penetrating the vagina or anus such as the penis, finger, hand, and/or object.

2.2. Selection of study participants

The Sexual Assault Resource Centre (SARC) is the sole sexual assault referral centre for police and other emergency providers in Perth, the capital of Western Australia. Study participants included post-pubertal adolescents and adult females aged 13 years and older referred to SARC for an emergency consultation between 1 January 2009 and 31 March 2015 following alleged recent sexual assault. Excluded from the study were patients who (i) did not give consent for research, (ii) were solely indecently assaulted, (iii) did

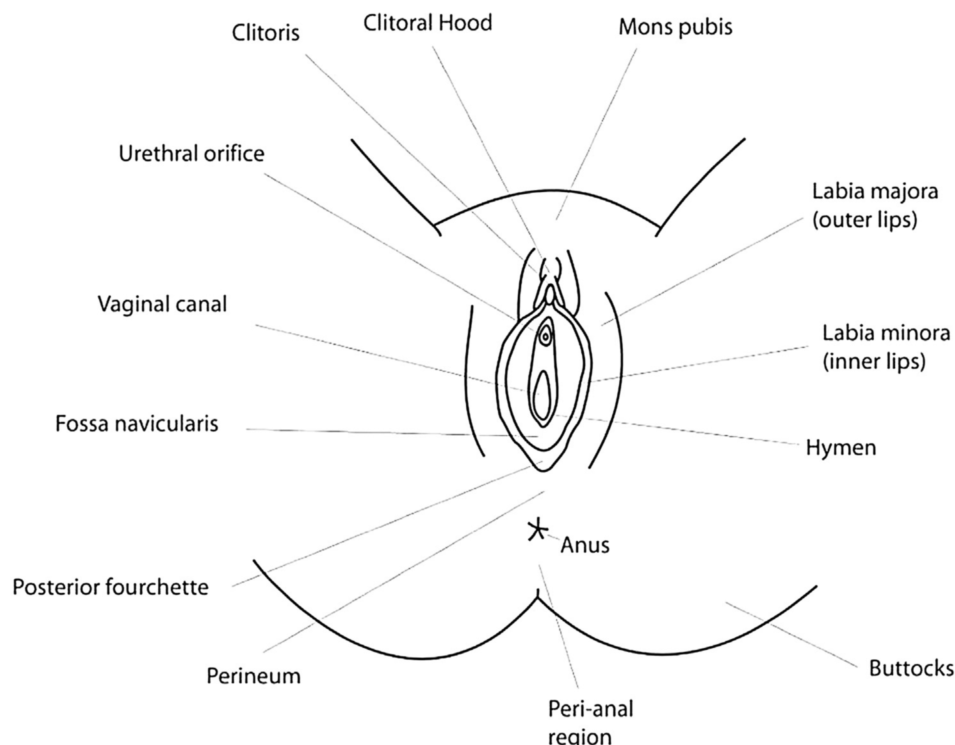

Fig. 1. Diagram of the female external genito-anal region used to document injuries.

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