Child maltreatment at a violence recovery centre in Kenya

Hassan Saidi MBCAS MMed *,†
Paul Odula MBChB MMed *,†
Kirsten Awori MBChB MMed †

*Nairobi Women's Hospital and †Department of Human Anatomy, Faculty of Medicine, University Of Nairobi, PO Box 30197, 00100 GPO, Nairobi, Kenya

Correspondence to: Dr Hassan Saidi, Department of Human Anatomy, Faculty of Medicine, University of Nairobi, PO Box 30197, 00100 GPO, Nairobi, Kenya
Email: hsaid2ke@yahoo.com

SUMMARY   Kenyan media reports indicate escalating levels of child maltreatment, but the characteristics of the offence are undefined. At the Gender and Violence recovery Center of the Nairobi Women's Hospital, we analysed 342 consecutive children for age, gender, perpetrator characteristics, time and scene of assault and the nature of injuries between February 2003 and April 2004. The children comprised 43.5% of all assault survivors. The mean age was 10.0 years and about 20% of the children were ≤5 years. Most (71.5%) of the child sexual abuse (CSA) was perpetrated by people known to the victim. Intra-family CSA (incest) was highest among the one to five year olds. The proportion of assaults committed against boys reduced with the age of the child. Older children were more likely to be assaulted later in the day and by multiple perpetrators. Most recorded injuries were perineal. The majority of children are assaulted by people they had trusted. The epidemiological correlates of maltreatment differ for younger and older children. More effort is needed to further characterize child violence and protect this vulnerable section of the population.

Introduction

Child maltreatment is a significant and underreported global problem The World Health Organization estimates that one in 10 children worldwide are sexually abused.[1] The health consequences of the abuse are protean and include effects on the child's personality and sexual behaviour.[2] The abuse may result in severe physical injuries.[3]

The Kenyan media continues to report escalating violence against children. The following is a typical example: 'A seven-year old orphan was raped by a man reportedly known to him. The victim had been left behind by her grandmother in their home when the suspect struck. The grandmother allegedly caught the suspect in the act inside her kitchen. She raised the alarm but the man escaped through a window during the 7:30 pm incident' (The Daily Nation, 24 December 2005).

The establishment of the Gender and Violence Recovery Centre (GVRC) in Nairobi has enabled a number of such victims to seek medical treatment and counselling therapy. This study reviews the patterns of child maltreatment seen at this facility.

Patients and methods

The GVRC provides free medical and psychological services to survivors of sexual and other forms of violence. Demographic (age, sex and education level), event (scene and time of day assault occurred, perpetrator characteristics) and clinical (nature and site of injuries) data were abstracted from patient case notes between February 2003 and April 2004. A survivor was defined as an abused child under 18 years old.

Findings considered consistent with sexual assault act included:

- perineal bruising and lacerations;
- hymenal bleeds;
- abnormally patulous perineal orifices;
- anal laxity/dilatation;
- abnormal vaginal/anal discharges.

This is a retrospective descriptive analysis. The data were analysed using the SPSS software. Variables were compared for sex and age groups of the child and significance was accepted at $P \leq 0.05$.

Results

The 342 children represented 43.5% of all violence survivors presenting at the recovery centre during the study period. The age range was 1–17 years (mean 10.0 ± 4.4 years) with a peak (47.1%) between 11–17 years of age: 18.5% were aged five years or younger (Table 1) and 92.7% were girls. The proportion of boys was highest in the under fives (13.2%) compared to the 6–10 (8.7%) and 11–17 (3.5%) groups. Most of the assaults were sexual (overall 93.5%: 1–5 years 94.1%, 6–10 years 94.4%, 11–17 years 92.5%).

Table 1 shows the characteristics of the perpetrators. The perpetrator was known to the child in the majority (72.0%) of cases and was a close family member in 27% of cases

Table 1 Distribution by age, gender, site, time and perpetrator characteristics of sexual abuse

Variable	n	Number (%)
Age (years)	1–5	68 (18.5)
	6–10	126 (34.3)
	11–17	173 (47.1)
Gender	Women	341 (92.9)
	Male	26 (7.1)
Perpetrator	Intimate partner	4 (1.1)
	Close relative	58 (16.2)
	Neighbour	84 (23.5)
	Unspecified/known	110 (30.7)
	Unknown/other	102 (28.5)
Time of day	4–7:59 am	14 (5.3)
	8–11:59 am	27 (10.3)
	12–3:59 pm	62 (23.7)
	4–7:59 pm	83 (31.7)
	8–11:59 pm	63 (24.0)
	12–3:59 am	13 (5.0)
Education level	Primary/elementary	238 (78.0%)
	High school	20 (6.6%)
	College/university	3 (1.0%)
	Minor	37 (12.1%)
	Nil	7 (2.3%)
Number of perpetrators	One	336 (93.9%)
	Gang	22 (6.1%)
Residence	Slum area	98 (34.6%)
	High density estate	102 (36.0%)
	Low density estate	18 (6.4%)
	City centre	5 (1.8%)
	Semi urban/rural	60 (21.2%)
Place of attack	Home	237 (71.0%)
	On the way	76 (22.8%)
	Other	21 (6.3%)

involving children aged one to five years, 20.2% in 6–10 year olds and 9.4% in 11–17 year olds. The frequency of an unknown perpetrator was highest (35.7%) in the 11–17 year group. The home was the most common scene of assault (64.5%). Children from informal settlements and those from low-income, densely populated, built-up residential areas were equally affected (34.6% and 36.0%, respectively). The proportion of children from up-market neighbourhoods of the city was only 6.4%. A fifth of the children (21.2%) attended treatment from areas outside the Nairobi city limits.

In the majority of the assaults, the children were attacked by lone perpetrators (93.9%). Most assaults occurred during the day with the peak occurrence between 12 am and 8:00 pm for 1–5 and 6–11 groups but between 4:00 pm and 12 pm for the 11–17 years. More adolescents (47.6%) were attacked at night than younger children (24.4%).

There were no significant difference between the 1–5 years and the 6–10 year olds with respect to the sex of the victim, the use of physical violence, multiple assailants, night-time assaults or type of residence. However, the 1–5 and 11–17 year groups differed significantly. The latter group had a higher proportion of girls ($P = 0.005$) and were more likely to be assaulted at night ($P = 0.005$) and by more than one perpetrator ($P = 0.03$).

Of the 309 children who underwent vaginal examination, positive findings were documented in 207 (67.0%). The findings included perineal bruising, tears, abnormal discharges and inflammation in various combinations. Vaginal swab examination was positive for spermatozoa in 15 cases (4.1%). Antibodies to HIV I/II were positive for 11 of 293 patients tested (3.7%).

Associated general body injuries ranged from local swellings to burns and lacerations. Sixty-nine such lesions, in different combinations, were documented: upper limbs (15), lower limbs (16), trunk (13) and head and neck (25). Thirty-two children (8.7%) required specialist reviews and subsequent laparotomy (one), examination under anaesthesia with or without suturing (10) and surgical debridement and suturing (13).

Discussion

Sexual abuse was the dominant form of child maltreatment seen in this study. This contrasts with USA were it represents only 15% of the child abuse cases (3).

Children were abused in their own homes and by persons known to them. Like the rest of Africa, the Kenyan society is more permissive to child beating and caning, which are seen as child physical abuse in developed countries. A child in Africa grows up aware of and accepting these physical forms of discipline. Massive public education is needed to change the outlook of this form of maltreatment in our society. The observation that a fifth of abused children lived outside Nairobi suggests the need for other violence centres across the country.

The results on commencement of sexual violence at an early age agree with other published reports. Child abuse statistics indicate an estimated 50% of girls are abused before the age of 15.[1] South African studies indicate the risk of rape is greatest from about 10–17 years of age.[4] About one half of survivors of child sexual abuse (CSA) in Hungary were school girls aged 11–14.[5]

The information on the perpetrators of child abuse corroborates other data. In a Kenyan study by Nduati and Muita,[3] strangers and people known to the child were equally implicated. In Hungary 66% of assailants were known to the victim with 11% of assaults perpetrated by the father and 10% by the step-father.[5] In rapes within families, almost 60% of the victims are unwilling to name of the abuser.[1] In a Malawi account, all the caretakers of sexually abused children refused to report the fact to authorities.[6] This underreporting of sexual and gender-related abuse will remain an obstacle to the full appreciation of the scale of the violence as long as the victims continue to be threatened, made to feel responsible, feel the need to protect the family in cases of incestuous relationships, or feel that society is against them.[1]

Positive physical findings were documented in two-thirds of the children. Physical examination remains an important means of diagnosis of CSA. The literature is, however, conflicting about its diagnostic efficacy. In the account by Heger *et al.*[7] the rate of positive physical was 6% for girls reporting penetration but only 1% for boys. They argue that the account given by the child should remain the most important diagnostic criteria. However, Hobbs *et al.*[8] reporting on the examination of English children referred for sexual abuse, documented anal findings (swelling, erythema, laxity, shortening, eversion, reflex dilatation, fissures, skin changes, twitching, funneling, bruising and infection) in up to 60%.

Prevention initiatives are the key to addressing the escalation of child maltreatment. Public education on vulnerability and perpetration risks, creation of safer neighbourhoods and child protection should be key tenets of this initiative. The motivations of child rape are complex: some men are sexually attracted to children, some enjoy the feeling of power over the victim, attack out of revenge against the child's mother, or believe sex with a minor would cure them of HIV. Other factors include alcohol, drugs, sexual fantasies, hostility toward women, a childhood history of abuse, feeling of a loss power caused by aggressive peers and unemployment. Child vulnerability is higher where family resources are scarce and where there are poor living conditions or the parents are frequently absent.[9] Prevalence is higher in communities with weak sanctions against sexual violence and societal norms that maintain women's inferiority and sexual submissiveness.

The elimination of CSA would mean a reduction of the medical and psychological consequences of such abuse, including the risk of HIV infection. Worku *et al.*[2] have reported a CSA rate of 18% for Ethiopian children. Among these children, 7.2% had unwanted pregnancy, 5.0% had sexually transmitted diseases and a high proportion suffered psychological effects including suicidal thoughts and attempts, and sexual dysfunction. Child protection will also reduce recidivism as child sexual assaults are often associated with an increased risk of physical/sexual partner and non-partner sexual violence in adulthood.

The Kenya parliament has instituted new laws against sexual abuse and established minimum sentences to act as deterrents to would-be offenders.[10] It has also created an all-female police station to handle cases of sexually assaults. All these activities must continuously be audited.

In conclusion, girls and women bear the greatest burden of sexual and partner physical violence. Paediatric assaults are mainly daytime sexual events. Major physical injuries occur in only a minority of victims. Public education and the enforcement of the new laws will limit the escalation of child maltreatment.

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Epidemiological shift, seasonal variation and antimicrobial susceptibility patterns among enteric fever pathogens in south India

K Vidyalakshmi MD*
R Yashavanth MBBS*
M Chakrapani MD†   B Shrikala MD*
B Bharathi MSc*   U Suchitra MD*
B Dhanashree PhD*   R M S Dominic MD*

*Department of Microbiology, Kasturba Medical College, Mangalore 575001, Karnataka, India; †Department of Medicine, Kasturba Medical College, Mangalore 575001, Karnataka, India

*Correspondence to: K Vidyalakshmi, Department of Microbiology, Kasturba Medical College, Light House, Hill Road, Mangalore 575001, Karnataka, India
Email: k.vidyalakshmi@lycos.com*

SUMMARY   Between January 2005 and December 2006, a higher incidence of paratyphoid fever (53.8%) compared to typhoid fever (44.9%) has been observed at a tertiary hospital in South India. A definite seasonal pattern of incidence is seen in paratyphoid fever (peak incidence during October–December, i.e., post monsoon period) but not in typhoid fever. Decreased fluoroquinolone susceptibility is much higher in *S.* Paratyphi A (98.8%) as compared to *S.* Typhi (46.5%). These findings are of importance in therapeutic decision making, development of vaccination strategies and implementing public health measures for disease control.

Introduction

Enteric fever continues to be endemic in many parts of the world, causing significant morbidity and mortality, especially in poorer countries. Until recently, it was commonly assumed that *Salmonella enterica* serovar typhi was responsible for most enteric fever episodes, and a smaller portion was caused by *S. enterica* serovar Paratyphi A.[1–2] Of late, there have been reports of increased isolation rates of *S. paratyphi* A, with high resistance to ciprofloxacin.[3–5] The epidemiological significance of this is probably great, since current enteric fever vaccines do not protect against paratyphoid fever. In this study, the incidence, seasonal pattern and antibiogram of *S. typhi* and *S. paratyphi* A were analysed over a two-year period.

Materials and methods

A total of 6010 specimens were received for blood culture during the study period (January 2005–December 2006), at Microbiology Laboratory, Kasturba Medical College Laboratory Services, Mangalore. All blood cultures were performed using the BacT-Alert automated blood culture system (bioMérieux, Inc, France). Isolates obtained were identified by standard microbiological methods,[6] and all Salmonella species were further confirmed by slide agglutination with specific antisera (Murex diagnostics Ltd, UK).

Antibiotic susceptibility testing was performed by the disc diffusion method. Antibiotics tested included (μg/disc) ampicillin (10), cotrimoxazole (25), chloramphenicol (30), nalidixic acid (30), ciprofloxacin (5), ofloxacin (5) and ceftriaxone (30) (HiMedia Laboratories Ltd, Mumbai, India). Minimum inhibitory concentrations (MIC) were determined for ciprofloxacin, ofloxacin and ceftriaxone by agar dilution. Clinical and Laboratory Standards Institute guidelines were followed throughout the study.[7]

Results

A total of 158 (2.6%) Salmonella species were obtained from 6010 blood cultures. Of these, 85 (53.8%) were *S. paratyphi* A, 71 (44.9%) were *S. typhi* and 1 (0.6%) each were *S. paratyphi* B and *S. typhimurium*. Age and sex distribution is shown in Table 1.

A seasonal pattern was observed in the incidence of paratyphoid fever (Figure 1, Table 1), in each of the years 2005 and 2006. The highest number of paratyphoid cases occurred during the months October to December (50.6%), followed by 30.6% during July–September. The incidence of paratyphoid fever was lowest during January–March (3.5%). No seasonal pattern of incidence was found in typhoid fever, which remained more or less constant throughout the year. Statistical analysis was done using EpiInfo 2000 Version software (Centers for Disease Control and Prevention, Atlanta, Georgia, USA).

Of the 71 *S. typhi* isolates, 33 (46.5%) were resistant to nalidixic acid. Susceptibility was 98.5% for ampicillin,