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Female Genital Mutilation Determinants and Consequences Among Girls and Women in Sudan

AKADEMISK AVHANDLING

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ABSTRACT

Background: Female genital mutilation (FGM) is still a reality in Sudan, Egypt and sub-Saharan Africa with three million girls at risk of being subjected to the practice annually and approximately 140 million girls and women currently living with its consequences worldwide.

Five hospital based studies were conducted in Khartoum state, Sudan, with the following aims: (I) To investigate the association between FGM and primary infertility. (II) To assess whether the extent of FGM influences the risk of acquiring STIs. (III) To estimate the prevalence of FGM and the types performed in girls aged 4-9 years in Khartoum and to investigate whether FGM is associated with various social factors. (IV) To assess the reliability of self-reported form of FGM in Sudan and to compare the extent of cutting verified by clinical examination with the corresponding WHO classification. (V) To investigate the possible association between FGM and chronic kidney disease (CKD).

Methods: A detailed history was obtained from respondents in all these studies using structured questionnaires and clinical examination was performed, including genital inspection. In study (I) 99 women with primary infertility were recruited after exclusion of hormonal and iatrogenic causes as well as male factors. Controls were 180 women recruited from antenatal clinic attendees. For study (II) blood samples were taken from 222 respondents of study I, and tested for seropositivity of *Chlamydia trachomatis*, *Neisseria gonorrhoeae* or *Treponema pallidum*. In study (III) 255 consecutive girls aged 4-9 years presenting to the emergency room were recruited. The 282 women from study (I) and the 255 girls from study (III) were included in study (IV). For study (V), 50 consecutive cases, girls aged 4-16 years with known CKD were recruited (known syndromes or congenital malformations were excluded) and 129 age matched controls with no urogenital symptoms.

Results: Women with primary infertility had a higher risk of previous exposure to the most extensive form of FGM (OR 4.69, 95% CI 1.49–19.7). There was no association between serological evidence of STIs and extent of FGM. The only factor that significantly differed between cases and controls was education; cases with STIs having shorter education ($p = 0.03$). Among girls, 40% had undergone FGM with a large share intending to perform it, predicting a future prevalence of 70%. Of those who had undergone FGM 66% had type III. Those who had allowed or intended to allow their daughters to undergo FGM were of lower socio-economic status ($p=0.0008$) and had spent fewer years in school than those who had not (mothers $p=0.0015$). The reliability of reported form of FGM was low and there was considerable under-reporting. Of those who said they had undergone the “Sunna” form, 9 girls (39%) and 19 women (54%) had WHO type III, paper (IV). Girls with CKD seem to have undergone FGM more often than controls (OR 2.3, $p = 0.02$, CI 1.9-5.8), and they have longer time interval since FGM was performed ($p = 0.003$). Reporting subjective symptoms of UTI was more common among cases (95%, 47/49, $p = 0.02$), than controls (35%, 45/129).

Conclusion: This study indicates high prevalence of FGM in Khartoum, with type III being the most prevalent form. Parental education, socio-economic level and religion are important determinants of the practice. The reliability of reported form of FGM is low and more importantly there is a considerable over reporting of the “Sunna” form. The possible relation between CKD and FGM is not just clinically important but has wider social implications. The observed association between FGM and infertility is intriguing in a society where childbearing is highly valuable.

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