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article

The supermarket for women's reproductive health: the burden of genital infections in a family planning clinic in Nairobi, Kenya

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Objectives: To study the burden of disease of reproductive tract infections (RTIs) and cervical dysplasia in women attending a family planning clinic in Nairobi, Kenya, and to assess the acceptability of integrating reproductive healthcare services into existing family planning facilities.

Methods: In a family planning clinic in Nairobi, Kenya, 520 women were enrolled in a study on RTI and cervical dysplasia.

Results: RTI pathogens were detected in over 20% of women, the majority being asymptomatic. HIV-1 testing was positive in 10.2%. The diagnosis of cervical dysplasia was made on 12% of the cytology smears (mild in 5.8%, moderate in 3.5%, severe in 1.2%), and 1.5% had invasive cervical cancer. The intervention of case detection of RTI and Papanicolaou smear taking was well received by clients and considered feasible by the staff.

Conclusions: Early detection and treatment of potentially curable cervical lesions and RTI provide a unique opportunity to improve women's health. In Kenya, where the current contraceptive prevalence rate is 33%, family planning clinics are excellent sites to introduce health interventions.

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Introduction

Reproductive tract infections (RTIs) are a serious threat to the health of women. This is especially true in developing countries, where the prevalence is high, a woman's position in sexual matters is low, and RTI diagnostic and treatment facilities are extremely limited. In addition to pain and discomfort, women often experience long term impairment of their reproductive health as a consequence of reproductive tract infections.^{1,2}

The emergence of the human immunodeficiency virus (HIV) as a sexually transmitted pathogen, and its association with other RTIs, has renewed interest in the prevention and control of sexually transmitted diseases (STDs) and RTIs.^{3–5} Despite this, many primary healthcare facilities, including maternal and child health and family planning clinics, fail to address RTIs in women. For many, the only alternative when genital tract infections are suspected is to refer the patient to a special clinic for sexually transmitted diseases, an "STD clinic", which is usually overcrowded, underfunded, and stigmatising. Recognition of these issues argues for incorporating RTI services into a comprehensive programme of reproductive health which is accessible and acceptable to women.

A related problem in Kenya and other countries in the region is cancer of the cervix, the most frequently detected cancer in African women.⁶ Although the national incidence of cervical cancer is not known, estimates from Nairobi indicate 45–50 cases per 100 000

women per year (unpublished data from the cancer registry at Kenyatta National Hospital, Nairobi). Cervical dysplasia rates between 10 and 30/1000 have been reported in selected populations.^{7,8} Despite these alarming figures, national screening programmes for early detection of cervical cancer are often not implemented owing to inadequate logistics (that is, lack of cytology facilities, trained staff, and quality control) and financial constraints.

Early detection and treatment of these potentially curable cervical lesions and RTIs provide a unique opportunity to improve women's health. In Kenya, where the current contraceptive prevalence rate is 33%, family planning clinics are excellent sites to introduce health interventions.

The objectives of this study were (1) to study the burden of disease of RTI and cervical dysplasia in women attending a family planning clinic in Nairobi, Kenya and, (2) to assess the acceptability of integrating reproductive healthcare services into existing family planning facilities.

Methods

The study was performed in one of the Family Planning Association of Kenya (FPAK) clinics in Nairobi. FPAK offers family planning services which include counselling on family planning and distribution of contraceptives. On the first visit the client pays a small membership fee of 30 Kenyan shillings (Sh) (about \$US1). Thereafter, he/she can use all the services offered by the clinic free of charge.

A gynaecological examination is performed and a cervical smear is taken once a year at an extra charge of KSh 60. A woman with an abnormal smear is referred to the nearest government hospital for specialised examination and management. The cervical smears are sent to a private laboratory in Nairobi. Quality control is not performed.

The FPAK clinic at Ribeiro is situated in one of the busiest areas in Nairobi's business district. The clinic has a clientele of working people in formal employment as well as self employed. Ribiero clinic is a busy family planning clinic attended by 50 to 80 patients per day. During a survey at Ribiero in 1992 it became obvious that a significant proportion of women attending the clinic for family planning purposes also reported signs and symptoms related to reproductive tract infections. These patients are referred to a government referral clinic for sexually transmitted diseases or to a private practitioner. Stigma attached to STD clinics and/or inadequate services keep patients from these facilities while the high costs often prevent women seeking help in the private sector.

Trying to improve the preventive and curative care for RTIs and cervical dysplasia, including colposcopy, biopsies, and non-invasive treatment for precancerous lesions of the cervix, a pilot project was initiated looking at opportunities to ameliorate women's health. Other needs to be addressed through an integrated strategy resulted in a concept that was called the "supermarket for reproductive health" approach. The goals of this project are:

- (1) to examine how different health services can be optimally integrated
- (2) to study women's health behaviour and healthcare seeking behaviour
- (3) to establish a comprehensive programme to improve women's health, including family planning, screening for cervical cancer and further management, and RTI diagnosis and treatment.
- (4) to provide training in the field of reproductive health to health professionals.

This paper reports on the first phase of the intervention project, which includes the measurement of RTI prevalence rates in this population. Randomly selected women attending the Ribiero family planning clinic between May and December 1994 were invited to participate in the study on RTIs and cervical dysplasia. The objectives, methodologies, and procedures were explained and written informed consent was obtained.

Trained nurses using a structured, pretested questionnaire collected information on social, demographic, medical, and sexual behaviour characteristics.

A general physical examination, including a pelvic assessment, was performed by the project doctor. Specimen collection included endocervical swabs for gonococcal culture and chlamydia enzyme immunoassay, high vaginal swabs for direct microscopy for *Trichomonas vaginalis* and *Candida albicans*, and the cervix was scraped using an endocervical brush to obtain a specimen for a cytology smear. A

Table 1 Prevalence of reproductive tract infections in 520 participants

STD pathogen (method of detection)	No of cases (%)
<i>Chlamydia trachomatis</i> (ELISA)	20 (3.8)
<i>Neisseria gonorrhoeae</i> (culture)	11 (2.1)
Syphilis (RPR)	11 (2.1)
Genital ulcer (RPR negative)	6 (1.2)
Genital warts (clinical)	6 (1.2)
Trichomoniasis (wet prep)	52 (10.0)

blood sample was taken for syphilis serology and the serum was stored for anonymous HIV-1 testing.

Data analysis was performed using the SPSS (SPSS Inc, Chicago, IL, USA) statistical package. Relative risks and the 95% confidence intervals were used to measure the strength of associations.

Results

Data were obtained on 520 randomly selected women. The mean age was 29.7 years (range 19–54), mean number of pregnancies was 2.7 (range 0–10), and 70% were married. The majority of the participants were attending the clinic as part of their regular family planning routine. Eight per cent spontaneously reported symptoms of a genital tract infection.

Table 1 shows the prevalence of RTI pathogens. Twenty per cent of participants had a pathogen detected during screening, trichomoniasis accounting for nearly half of these cases. HIV-1 testing was positive in 53 (10.2%). Pelvic inflammatory disease was clinically diagnosed in 22 (4.2%).

The diagnosis of cervical dysplasia was made on 63 (12%) of the cervical cytology smears. Mild dysplasia was found in 29 (5.8%) women, 18 (3.5%) had moderate dysplasia, 6 (1.2%) had severe dysplasia, and 8 (1.5%) had invasive carcinoma.

No significant relation was demonstrated between abnormal cytology and vaginal lesions such as ulcers, erosions, or discharge. However, an association was observed between dysplasia and cervical ectopy (odds ratio, OR 2.7; 95% confidence interval, 1.5–4.7), cervical friability (OR 3.0; 1.1–3.1), and epithelial changes of the cervix after application of an aqueous acetic acid solution (OR 3.8; 1.7–8.9).

The project staff in history taking specifically for RTI, as well as in assessing the genital tract, trained the staff of the family planning clinic. They became actively involved and started realising that STDs, particularly HIV and cervical dysplasia, were a burden to the health of their patients. The process of integrating this new component of care was well received by the family planning staff and became part of the patient management at the clinic.

Discussion

In this "low risk population" of well women seeking family planning services, the prevalence of sexually transmitted infections was high, consistent with recent studies from family planning clinics and maternity hospitals in Nairobi.^{7–9} Early recognition and prompt treatment will prevent complications such as pelvic inflammatory disease and its sequelae.

Perhaps of even greater concern was the unexpected high prevalence of precancerous lesions of the cervix. Although it is recognised that cervical cancer is the most common malignancy among women in east Africa, the 12% prevalence rate of cervical dysplasia in this study was much higher than anticipated. Engels *et al*, studying a similar population in Nairobi, found a prevalence of mild, moderate, and severe dysplasia of 5.1%, 1.2%, and 0.15% compared with 6%, 3%, and 1.2%, respectively in our study.⁸ Maggwa *et al*, studying 4058 family planning attendees in Nairobi between 1989 and 1991, reported a 2% dysplasia rate.⁷ Although population differences and sampling techniques may account for some of the discrepancy, the impact of rising HIV infection in this population may be a major contributor to the rapid increase of cervical dysplasia. Clinical predictors of abnormal cytology included cervical erosion, cervical friability, and a positive aceto acid test. This observation may be important especially in populations with limited health budgets where cervical cytology cannot be widely applied and alternative screening methods have to be examined.

These data underline that the burden of RTI, including cervical lesions is significant in women attending family planning clinics. The scope of reproductive health must be broadened beyond family planning and maternity care to include prevention and management of reproductive tract infections, screening and management of cervical dysplasia and cancer, counselling around gynaecological and sexual problems, safe motherhood, and reproductive health education. The approach to reproductive healthcare services should be comprehensive and designed as a "supermarket for women's reproductive health" concept, whereby several aspects of reproductive health are integrated into primary healthcare facilities or into "well woman" clinics. Promoting community involvement with outreach activities and health education can strengthen this approach. This may encourage the participation of women who would normally not access the healthcare system such as adolescents and other vulnerable groups. Although there are costs involved in providing these services, the emphasis on prevention and early detection is

clearly less resource intensive than dealing with the severe consequences of reproductive tract infections and cervical dysplasia that escape detection.

The findings of this demonstration project underscore the importance of broadening the scope of reproductive health services from family planning alone to also include RTI detection and treatment, and early detection and management of cervical dysplasia. Failure to do so is not only a missed opportunity to improve reproductive health of women, but could have a significant impact on reducing the transmission of HIV and the development of cervical cancer. More action oriented health systems research is needed to determine the most feasible and cost effective systems to prevent, screen, and treat reproductive tract infections and cervical (pre) malignant lesions.

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