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PARTNER NOTIFICATION IN THE MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS IN NAIROBI, KENYA

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**PARTNER NOTIFICATION IN THE MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS IN NAIROBI, KENYA**

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**ABSTRACT**

**Objective:** To assess utilization of partner notification as a tool in prevention and control of Sexually transmitted infections in Nairobi City Council clinics.

**Design:** A cross-sectional study carried out between April and September 2000.

**Setting:** Nairobi City Council health clinics were stratified into eight administrative divisions and a total of 16 out of 54 primary health clinics with at least four STIs patients per day were selected. A standard questionnaire was administered to every fourth patient with clinical diagnosis of STIs who gave consent on exist. Sexual partners referred by index cases during the five day period from each clinic were also enrolled into the study. An additional questionnaire was administered to HCP who were managing STIs patients and their sex partners.

**Results:** Of 407 STIs patients recruited between April and September 2000, 20.6% were primary and 2% were secondary referrals giving an average referral rate of 23%. Respondents with multiple sex partners were less likely to refer their partners compared to those who had one partner (17.9% vs 82.1%,  $p < 0.005$ ). Counseling of STI patients on the importance of partner referral was more effective than issuing referral cards alone (72.8% vs 56.8%  $p = < 0.006$ ). Barriers to partner notification included partners being out of town (44.6%) fear of quarrels and violence from partners (32.5%) and casual partners (15.1%) whose sex partners were unknown.

**Conclusion:** Counseling and understanding of STIs patients on the need to treat all sexual partners is pivotal to the success of partner referral.

INTRODUCTION

Partner notification and condom use, preventive indicator seven(1) are components of sexually transmitted infections (STIs) control programme. As a public health strategy, the sex partners of the index case are notified, counseled and offered services(2). This process breaks the chain of spread of STIs from symptomatic and asymptomatic patients thus ensuring re-infection does not occur. In this way, the burden of a disease in the community is reduced(3).

Utilization of partner notification in case management is limited. This is because health care providers (HCPs) often dismiss notification due to the amount of time involved in counseling and educating the patients(4). The long incubation period for some sexually transmitted infections form major confounding factors in partner notification. Sexually transmitted infections with short incubation period such as gonorrhoea and chlamydia, present good notification rates(3).

A cross-sectional study was conducted within Nairobi City Council health clinics to assess utilization of partner notification as a tool for prevention and control of STIs by comparing the number of index cases and sexual contacts treated for STIs.

MATERIALS AND METHODS

Approval was obtained from the Kenyatta National Hospital Ethics and Scientific Committees to conduct the study among Nairobi City Council health clinics. Health facilities were stratified according to administrative divisions and 16 out of 54 primary health clinics with at least four STIs patients per day were selected. An exit interview was conducted on every fourth clinically diagnosed STI patient presenting to the clinic within five working days who gave a verbal consent. Using a standard questionnaire, data were collected on: social and demographic characteristics, presenting STIs complaints, duration of symptoms, and sexual behavior. Information was collected on whether they were counseled by HCPs regarding the nature of illness, issued with notification slips to notify and refer their partners to the clinic for treatment. Only patients who were referred, assessed and treated within the five day period spent at each clinic are included in the analysis. In this study an index patient refers to the first STIs patient who presented himself/herself for treatment, a primary patient is the first referral, secondary patient is the second referral and the tertiary patient is the third referral.

Although there were many HCPs from the 16 study clinics who were eligible, only those who attended to STI patients within the five day study period were enrolled into the study. A separate questionnaire was used to collect data on the knowledge and notification practices between HCPs.

## RESULTS

*Social Demographic Characteristics:* A total of 407 STIs patients were enrolled into the study between April and September 2000 with a mean age of  $27.6 \pm 7.5$  (range 17 to 54) years. Of these 58.7% were women, 62.9% married and 33.7% were single (Table 1).

Most of the patients had formal education as follows: 31.4% secondary, 27.2% primary and 1.5% college/university education. There were more Protestants than Catholics (56% vs. 32%). A third of STIs patients were below poverty line; 12.6% earned less than US\$27.00 a month and 17.5% had no regular income with the majority (19.4%) being housewives. Casual workers were among 50.7% who earned between US\$27-108 while small business people were among 19.2% that earned over US\$108.00 per month.

Patients took a long time before seeking STIs treatment. Only 25.8% sought treatment in less than a week compared to 31.4% who took more than four weeks. Presenting symptoms varied between sexes with predominant symptoms in females being vaginal discharge (38.8%), lower abdominal pain (23.8%) and genital ulcers (17.6%) while urethral discharge (26%) and

genital ulcers (29.2%) were the complaints in males (Table 2).

*Practices of Health Care Providers:* Of the 36 HCPs (33 nurses, two doctors and one clinical officer) enrolled into the study, 77.8% were females aged between 25 and 54 years with working experience ranging between 1 and 31 years. All of the HCPs had in-service training in syndromic management of STIs in the past 1 to 12 years. Eagerness to upgrade their skills was shown by 97.2% of HCPs who requested for training in STDs/HIV/AIDS management (41.7%) and in counseling (36.1%). Training in counseling would seem a priority given the nature of their work and the fact that only 8.3% had prior training in counseling.

Health care providers had a copy of the flow chart and 91.7% followed the Ministry of Health National Guidelines on STIs syndromic management. From interviews HCPs, 90.3% advised patients on partner notification and 82.1% provided contact / referral cards. Further 86.1% provided education on compliance (51.6%), and use of drugs (54.%) to STIs patients and warned them on the risk of HIV/AIDS (83.3%). In addition 61.0% stated that they provided advice and instructions (44.4%) on the use of and provided condoms (91.7%) to STIs patients.

Table 1

*Demographic Characteristics of Patients*

Variable	Frequency	Percentage
Age in years		
15 - 20	59	14.4
21 - 25	127	31.3
26 - 30	126	31
31 - 35	48	11.9
36 - 40	23	5.7
41 - 45	13	3.2
46 - 50	10	2.5
Gender		
Male	168	41.3
Female	239	58.7
Marital status		
Married	256	62.9
Single	151	37.1
Religion		
Protestant	228	56
Catholic	130	31.9
Others	49	12.1
Income per month		
None	71	17.5
<200	51	12.6
2001 - 8000	206	50.7
>8000	78	19.2
Occupation		
Unemployed	132	32.4
Unskilled	64	15.7
Skilled	75	18.4
Business	136	33.5
Education level		
None	20	4.9
Primary	155	38.1
Secondary	211	51.8
College	21	5.2

**Table 2***Presenting complaint by gender*

Presenting STDs Complaint/Symptom	Male (%)	Female (%)	P-Value
Urethral Discharge	106 (26)	-	
Vaginal Discharge	0	158(38.8)	
Genital Ulcer Disease	49 (29.2)	42 (10.3)	P>0.06
Genital Pruritis	24 (18.3)	55 (13.5)	P>0.28
Lower abdominal pain	14 (8.3)	152 (37.3)	P>0.05

\*Some patients presented with multiple symptoms

**Table 3***Health Care Providers and referral practices*

Attribute of the Respondent	Profession of HCPs			P-value
	Doctors (%)	Nurses (%)	Clinical officers (%)	
Gender of Patients treated				
Male	87 (51.2)	20 (11.8)	37.1 (63)	P<0.00
Female	4 (1.7)	229 (96.6)	1.7 (4)	
Patients knowledge on diagnosis				
Yes	7 (7.7)	212 (85.1)	6 (9)	p<0.00
No	84 (92.3)	37 (14.9)	91 (61)	
Explaining mode of spread				
Yes	17 (18.7)	237 (95.2)	14 (20.9)	P<0.00
No	74 (81.3)	12 (4.8)	53 (79.1)	
Drugs issued for partners				
Yes	1 (1.1)	30 (12)	0(0)	p<0.01
No	90 (98.9)	219 (88)	67 (16.5)	
Partner notification cards issued				
Yes	3 (3.3)	121 (48.6)	3 (4.5)	P<0.00
No	88 (96.7)	128 (51.4)	64 (95.5)	

**Table 4***Partner notification practices*

Respondent Characteristic	Partner Notification Practices		P-value
	Referred (%)	Did not Refer (%)	
Willingness to bring partners for treatment			
Yes	67(72.8)	179(56.8)	P<0.30
No	25(27.2)	136(43.2)	
Issued drugs for partners			
Yes	0(0)	92(100)	P<0.02
No	31(9.8)	284(90.2)	
Issued partner notification cards			
Yes	35(38)	92(29.2)	P<0.108
No	57(62)	223(70.8)	
Respondents with multiple sex partners			
Yes	15(17.9)	106(38.5)	P<0.045
No	69(82.1)	169(61.5)	
Referral by marital status			
Single	16(11.7)	121(88.3)	P<0.30
Married	73(28.5)	183(71.5)	
Separated/divorced	3(23.1)	10(76.9)	
Referral by Counseling			
Counseled	67 (72.8)	179(56.8)	P<0.06
Not counseled	25 (27.2)	136(43.2)	

**Table 5***Referral by duration of symptoms and occupation*

	Referred Frequency	%	Not Referred Frequency	%
Duration of symptoms				
Less than one week	14	13.3	91	86.7
1 - 2 weeks	23	21.3	85	78.7
3 - 4 weeks	11	16.7	55	83.3
Referral by occupation				
Unemployed	10	10.9	29	9.2
Housewife	28	30.4	51	16.2
Casual	10	10.9	44	14
Skilled artisan	8	8.7	28	8.9
CSWs	1	1.1	16	5.1
Business	28	30.4	91	28.9
Student	0	0	14	4.4
Office	7	7.6	32	10.2
Others	0	0	10	3.2
Total	92	22.6	315	77.4

**Table 6***Barriers to partner referral*

Barrier	Number of Cases	%
Fear of quarrels	46	27.7
Fear of violence	8	4.8
Partner out of town	74	44.6
Casual relationship	25	15.1
Partner treated elsewhere	3	1.8

Regarding STIs patients, more (58.5%) male patients consulted doctors and clinic officers who were mostly males while female patients sought treatment from nurses (92.3%) most of whom were females. Of patients interviewed on exit, 68.8% admitted that HCPs had given them health education advice on STIs/HIV, need to refer sexual partners for treatment (83.5%) and warned them against the risk of HIV/AIDS (61.2%). Out of these 55% were informed about the diagnosis of their STIs mode of spread and 65.8% were told about their treatment.

Only a small number of STIs patients had been given condoms (17.7%) and instructions on how to use them (16.5%). Similarly drugs for the sex partners and notification cards were given only to 7.6% and 31.2% of STIs patients respectively (Table 3).

*Partner Referral Practice:* The index cases (84%) formed the bulk of respondents interviewed with 20.6% primary and 2% secondary referral patients. Partner notification was positively correlated with whether one was counseled on the need to refer partners or not (72.8% vs 56.8%,  $p < 0.006$ ) and negatively correlated with having multiple sexual partners (17.9% vs 38.5%  $p < 0.005$ ) and being issued with drugs for the partners (0.0% vs 9.8%). There was no significant correlation with STIs patient's willingness to bring partner for

treatment, being issued with notification cards, presentation and duration symptoms, occupation and marital status. Housewives were more likely to be referred (30.4% vs 16.2%) probably because their sex partners are known and concerned about getting re-infected.

Table 6 summarises the reasons given by STIs patients for not referring their sexual partners for treatment. Barriers to partner notification included partners being out of town 44.6%, fear of quarrels and violence from partners 32.5% and casual partners 15.1% whose contacts were unknown to the STIs patients.

## DISCUSSION

In this study three factors that influence partner notification are compared; practice of STIs patients, practice of health care providers, barriers to notification, and partner referral rate. Over a third of the respondents took more than four weeks before seeking treatment. High generation rate from individuals with high rate of sex partner change and long duration of illness before treatment are responsible for maintaining STIs rates in a community(3).

More than half of the men in this study reported having multiple sex partners during the symptomatic

period. The practice was most common among married men (51.1%) in 71 cases. This implies that married men who did not refer all partners continue infecting and being re-infected by sexual partners thus maintaining STIs in the community and creating resistance to therapeutic substances(7,8). Untreated partners continue to serve as a reservoir for pathogenic organisms, such scenario complicates prevention and control of STI(5,9). Since the Kenyan law is silent on STIs treatment in the general population individuals take personal decisions as to when, where and how to seek treatment.

The nature of infection influences the time to seek treatment(10). Patients with short incubation period such as gonorrhoea and chlamydia presented themselves in less than a week compared to those with genital ulcer diseases (syphilis and chancroid) who presented after four weeks. A patient presenting with discharge experiences discomfort in the early stage of the disease either during micturition or during sexual intercourse, prompting him/her to seek medical care almost immediately. Majority of patients who were referred by index cases were asymptomatic with non-specific signs and symptoms such as backache (40.5%), headache and fever (38.3%).

Alternative strategies of educating patients on control and prevention of STIs are needed, especially on partner notification. When respondents were asked to give suggestions on methods that can be utilized to improve notification, 37.8% did not offer any suggestions, and 1.2% pointed out that men should be targeted because of having multiple sex partners and frequenting commercial sex workers. Encouraging voluntary counseling and testing for STIs/HIV/AIDS which, can reduce STIs caseload in communities has been proven feasible in the prevention and control of STIs(11).

Training of health care providers can increase knowledge and skills significantly, and improve control and prevention of STDs/HIV/AIDS. The effectiveness of training HCPs in syndromic management is confirmed in the study, by the knowledge and practices exhibited by HCPs. Pre-service and continuous medical education is essential for the health care providers to perform their duties effectively. However, training must be accompanied by appropriate supplies and effective supervision.

Although the counseling component in syndromic STIs management does not stipulate precise topics to be covered in STIs education, the counseling strategy has been shown to improve referral. In this study a significant number (72.8%) of STIs patients referred their sex partners following counseling session by the HCPs compared to those who did not refer. Referral can be enhanced further when HCPs address specific key topics during the counseling sessions(9,12). Although partner notification is an essential tool in prevention and control of sexually transmitted infections, it is difficult for people to notify their sexual partners unless

they are well informed about diagnosis, mode of transmission and the need to treat all partners.

Partner notification can be an effective tool in STIs management if barriers are identified and removed. As have been shown in the other studies(13), majority of respondents were willing to refer their partners for treatment. Due to time limitation it was not possible to ascertain whether or not partners were eventually treated at the same clinic or elsewhere. Various reasons were given by those who could not refer their partners included: 44.6% partners were out of town, 32.7% fear of quarrels and violence, and 15.1% casual partners. Of particular public health interest and concern are claims that partners were either out of town or of unknown address who could not be contacted and therefore continued to spread infections. These findings indicate that individuals are not ready to accept the responsibilities concerning the STIs problem; instead patients give reasons that justify their actions. Such behaviour help individuals cope with the problem without necessarily solving the root cause, this may explain the explosive prevalence of STIs/HIV/AIDS in Kenya(14). In such circumstance health care providers should be mandated to notify contact partners directly without consent of the infected persons. There is need for long- term follow up studies of STIs/HIV/AIDS patients in order to establish other factors that hinder notification such as cultural beliefs and values.

Partner notification used alone may not be an effective tool in prevention and control of STIs. These results compare well with other studies, which shows that partner notification alone cannot be an effective tool in control of STIs(15-17). Alternative strategies are therefore needed to compliment partner referral.

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