

ORIGINAL RESEARCH ARTICLE

Sexually Transmitted Infections and Health Seeking Behaviour among Ghanaian Women in Accra

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ABSTRACT

The study was to measure the prevalence of sexually transmitted infection (STI) symptoms among women in Accra, Ghana, to identify characteristics that predispose to STI symptoms and to identify factors that influence health-seeking behaviour of women with STI symptoms. Data were collected by trained interviewers through questionnaire interviews of 3183 women. Data analysis was restricted to 1329 women with complete data. Only 19% of our study group had STI symptoms. Only 35% of the women with STI symptoms received care. Having high wealth index, being older and having no history of condom use were protective factors for experiencing STI symptoms. Seeking care was associated with increased by high wealth index and the presence of an offensive vaginal odour. Income level on its own did not affect health seeking behavior. Wealth index is the most significant determinant of a woman having STI symptoms and seeking care in Accra (*Afr J Reprod Health* 2008; 12[3]:151-158).

RÉSUMÉ

Infections sexuellement transmissibles et le comportement sanitaire recherché parmi les femmes ghanéennes à Accra L'étude est de mesurer la prévalence des symptômes d'infections sexuellement transmissibles (IST) chez les femmes à Accra, Ghana, d'identifier les caractéristiques qui prédisposent les symptômes d'IST et d'identifier les facteurs qui influencent le comportement sanitaire recherché par des femmes ayant des symptômes d'IST. Les données ont été recueillies par des intervieweurs formées par le biais des questionnaires distribués à 3183 femmes. L'analyse des données a été limitée à 1329 femmes ayant des données complètes. Seuls 19% de notre groupe d'étude ont des symptômes d'IST. Seuls 35% des femmes ayant des symptômes d'IST ont reçu des soins. La possession d'une indice élevée de richesse, étant plus âgée et n'ayant pas d'histoire de l'utilisation des préservatifs sont tous des facteurs protecteurs pour éprouver des symptômes d'IST. La recherche de soin était associée à l'accroissement de l'indice élevée de richesse et la présence d'une odeur vaginale repoussante. Le niveau du revenu de sa part n'a pas endommagé la recherche sanitaire du comportement. L'indice de richesse est le déterminant le plus important d'une femme ayant des symptômes d'IST en recherchant du soin à Accra (*Afr J Reprod Health* 2008; 12[3]:151-158).

KEY WORDS: Sexually transmitted infections; symptoms of sexually transmitted infections; Ghana; Africa

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Introduction

Sexually transmitted infections (STIs) may be either asymptomatic or symptomatic¹. Regardless of the presence or absence of symptoms all STIs can lead to major complications if left untreated². Most STIs are, however symptomatic¹, and so a simple symptom survey could be used to screen for the presence of such infections. Infertility resulting from tubal blockage is a recognized complication of STIs^{2,3} and the high prevalence of tubal blockage in sub-Saharan Africa has been reported⁴. It has also been shown² that prompt and adequate treatment of STIs is effective at preventing tubal blockage developing as a complication of STIs. In sub-Saharan Africa, where STI plays a major role in contributing to poor reproductive health status of women⁴, it is important to know how women respond to the symptoms of STIs. This knowledge will be useful in designing reproductive health educational campaigns and in creating interventions that will increase treatment of women suffering from STIs.

The aims of this study were to measure the prevalence of STI symptoms among women in Accra, Ghana, to identify demographic characteristics that predispose women to experiencing STI symptoms and to identify the factors that influence the health-seeking behaviour of women with STI symptoms.

MATERIALS AND METHODS

This study was part of the Accra Women's Health study (AWHS) which was a collaborative study between

researchers from the University of Ghana and the Harvard School of Public Health.

Study Design

The AWHS was a population-based cross-sectional survey that was conducted in 2003. Using the data from the Ghana 2000 census, the 1731 enumeration areas in Accra were stratified by socio-economic status and 200 were selected with probability proportional to population size within the socio-economic strata. Each household in the selected strata was visited in order to compile a list of women aged 18 and older who were usually resident in the household. A random sample of 17 women per enumeration area was selected for the survey. A total of 3183 women were interviewed at home, with a questionnaire, by trained interviewers between March and September 2003. The interview included questions on demographic characteristics, lifestyle habits, living conditions, general health and reproductive health. This analysis is restricted to 1329 women who were sexually active at the time of the study and had complete data on the presence of STI symptoms at the time of the survey and complete data on the demographic characteristics that were studied.

This study was approved by the Human Subjects Committee at Harvard School of Public Health, Boston, MA. and Noguchi Memorial Institute for Medical Research, University of Ghana, Accra, Ghana. Data analysis was approved by the IRB at Beth Israel Deaconess Medical Center, Boston, MA.

Informed consent was obtained prior to the household survey.

Statistical Analysis

The data were analysed using Stata 8⁵. Means were compared using the Student's t-test⁶ and the chi square test⁶ was used to test for associations between subject characteristics and the presence of STI symptoms. Crude and adjusted odds ratios (OR) for the presence of STI symptoms were calculated. The analysis of health-seeking behavior among women with STI symptoms was restricted to the subset of 246 women with STI symptoms. The Student's t-test and the chi square test were also used in this sub-analysis, Crude and adjusted OR for the decision to seek treatment or advice for STI symptoms were calculated. A p value of 0.05 was taken to be significant.

Results

Profile of study group

The mean age of the 1329 respondents was 38.0 years (sd 15.6) and the mean age at first intercourse was 18.7 years (sd 3.0). There were 246 respondents (18.5%) who had at least one STI symptom. Respondents with STI symptoms were significantly younger and had first intercourse at an earlier age than those without STI symptoms (Table 1). More women among those without STI symptoms were educated beyond junior secondary level than for those with STI symptoms. STI symptoms were more common among women with a lower wealth index (Table 1). Wealth index was

measured by scoring responses provided about living conditions and ownership of certain items.

Factors Associated with the Presence of STI Symptoms

Belonging to a lower wealth index group was significantly associated with a woman having STI symptoms (Table 2). Comparing two women whose ages differed by one year, the older woman was less likely to have an STI symptom (OR: 0.96 CI: 0.94-0.97; p<0.0001). A history of condom use was surprisingly associated with having STI symptoms. Of the 246 women with STI symptoms, 160 (65.0%) did not seek either treatment or advice for their symptoms. There was no respondent who sought treatment but did not receive it. The respondents who sought treatment or advice were older, of higher educational and with a higher wealth index than those who did not (Table 3). There was however no significant difference in the monthly incomes of both groups.

Sources of Treatment for STI Symptoms

The commonest source of treatment or advice was from a doctor, nurse or midwife (59.1%). The two chief reasons for not seeking care were because the symptoms were not considered to be serious (40.2%) and because the cost of receiving care was considered unaffordable (23.3%). Analysis of the factors that influence women seeking care showed that the presence of an offensive vaginal odour and a high wealth index had a significant association with a woman seeking care (Table 4).

Table 1: Selected demographic characteristics of 1329 women in the sexually transmitted infection study of the Accra Women's Health Survey conducted in 2003 in Ghana

<i>Characteristic</i>	<i>Women with STI symptoms</i>	<i>Women without STI symptoms</i>	<i>p value</i>
Total number	246	1083	
Mean age (sd)	30.6 (0.70)	39.6 (0.49)	<0.0001
Mean total lifetime sexual partners (sd)	2.5 (0.11)	2.3 (0.09)	0.34
Mean age at first intercourse (sd)	18.3 (0.17)	18.8 (0.09)	0.02
Educational level			
Primary school	52 (21.1)	163 (15.1)	
Junior secondary	135 (54.9)	614 (56.7)	0.02
Senior secondary	45 (18.3)	193 (17.8)	
Tertiary	14 (5.7)	113 (10.4)	
Monthly income*			
Less than 300,000 cedis	86 (35.0)	310 (28.6)	
300,000 to 500,000 cedis	68 (27.6)	307 (28.4)	0.17
500,000 to 1,000,000 cedis	64 (26.0)	346 (31.9)	
1,000,000 to 5,000,000 cedis	28 (11.4)	120 (11.1)	
Wealth index			
Highest	33 (13.4)	273 (25.2)	
Fourth	49 (19.9)	257 (23.7)	
Middle	48 (19.5)	232 (21.4)	<0.0001
Second	61 (24.8)	192 (17.7)	
Lowest	55 (22.4)	129 (11.9)	
Marital status			
Never married	87 (35.4)	220 (20.3)	
Currently married	105 (42.7)	519 (47.9)	<0.0001
Widowed/divorced/separated	44 (17.9)	309 (28.5)	
Ever married, current status unclear	10 (4.1)	35 (3.2)	
Condom use			
Ever used	107 (43.5)	324 (29.9)	
Never used	139 (56.5)	759 (70.1)	<0.0001

* 8000 cedis = US\$1 at time of study

Table 2: Odds ratios for presence of sexually transmitted infection symptoms among women in the sexually transmitted infection study of the Accra Women's Health Survey conducted in Ghana in 2003

<i>Characteristic</i>	<i>Crude OR (CI)</i>	<i>Adjusted OR (CI)</i>
Age	0.95 (0.94-0.96)	0.96 (0.94-0.97)
Total lifetime sexual partners	1.02 (0.98-1.06)	1.01 (0.97-1.06)
Age at first intercourse	0.95 (0.90-0.99)	0.99 (0.96-1.05)
Educational level		
Primary school	1.00	1.00
Junior secondary	0.69 (0.48-0.99)	0.66 (0.44-0.98)
Senior secondary	0.73 (0.47-1.15)	0.62(0.37-1.03)
Tertiary	0.39 (0.21-0.73)	0.41(0.20-0.84)
Monthly income*		
Less than 300,000 cedis	1.00	1.00
300,000 to 500,000 cedis	0.80 (0.56-1.14)	0.94 (0.64-1.38)
500,000 to 1,000,000 cedis	0.67 (0.47-0.95)	1.07 (0.71-1.59)
1,000,000 to 5,000,000 cedis	0.84 (0.52-1.35)	1.49 (0.87-2.56)
Wealth index		
Highest	1.00	1.00
Fourth	1.57 (0.98-2.53)	1.52 (0.92-2.51)
Middle	1.71 (1.06-2.76)	1.43 (0.85-2.42)
Second	2.63 (1.66-4.17)	2.26 (1.34-3.82)
Lowest	3.53 (2.18-5.70)	2.54 (1.44-2.50)
Marital status		
Never married	1.00	1.00
Currently married	0.51 (0.37-0.71)	0.76 (0.53-1.10)
Widowed/divorced/separated	0.36 (0.24-0.54)	0.71 (0.42-1.16)
Ever married, current status unclear	0.72 (0.34-1.52)	1.30 (0.56-3.00)
Condom use		
Never used	1.00	1.00
Ever used	1.80 (1.36-2.39)	1.43 (1.04-1.96)

* 8000 cedis = US\$1 at time of study

Discussion

The study reports an 18.5% prevalence of STI symptoms among the respondents. High wealth index, being older and no history of condom use were protective factors for experiencing STI symptoms. Only 35.0% of the women with STI symptoms sought and received

care or advice. Seeking care or advice was strongly associated with the respondent being of a high wealth index group and suffering from an offensive vaginal odour.

The study involved only a symptom survey and so cannot be used as a measure of the prevalence of STI among the population studied. A symptom

Table 4: Odds ratios for seeking treatment or advice among women with sexually transmitted infection symptoms in the Accra Women's Health Survey conducted in Ghana in 2003

<i>Characteristic</i>	<i>Crude OR (CI)</i>	<i>Adjusted OR (CI)</i>
Age	1.02 (1.00-1.05)	1.03 (0.99-1.07)
Total lifetime sexual partners	1.02 (0.98-1.06)	1.23 (1.00-1.51)
Age at first intercourse	1.11 (0.95-1.29)	1.02 (0.90-1.15)
Type of STI symptom		
Vaginal discharge	1.63 (0.84-3.16)	1.94 (0.84-4.48)
Vaginal itch	1.30 (0.69-2.44)	1.70 (0.77-3.73)
Bad vaginal odour	1.87 (1.07-3.25)	2.14 (1.11-4.14)
Genital ulcer	1.75 (0.88-3.50)	1.65 (0.71-3.83)
Educational level		
Primary school	1.00	1.00
Junior secondary	0.84 (0.42-1.67)	0.69 (0.31-1.53)
Senior secondary	1.80 (0.79-4.11)	1.65(0.60-4.59)
Tertiary	3.71 (1.08-12.77)	3.34 (0.73-15.22)
Monthly income*		
Less than 300,000 cedis	1.00	1.00
300,000 to 500,000 cedis	1.92 (0.97-3.78)	1.77 (0.84-3.74)
500,000 to 1,000,000 cedis	1.54 (0.76-3.09)	0.90 (0.38-2.10)
1,000,000 to 5,000,000 cedis	2.05 (0.85-4.99)	1.31 (0.44-3.89)
Wealth index		
Highest	1.00	1.00
Fourth	0.51 (0.21-1.24)	0.48 (0.17-1.36)
Middle	0.33 (0.13-0.84)	0.28 (0.09-0.84)
Second	0.39 (0.16-0.92)	0.43 (0.15-1.22)
Lowest	0.18 (0.07-0.48)	0.21 (0.07-0.67)
Marital status		
Never married	1.00	1.00
Currently married	1.05 (0.59-1.90)	0.94 (0.46-1.95)
Widowed/divorced/separated	0.64 (0.29-1.43)	0.38 (0.13-1.12)
Ever married, current status unclear	0.43 (0.09-2.14)	0.30 (0.04-2.19)
Condom use		
Never used	1.00	1.00
Ever used	0.97 (0.57-1.65)	0.74 (0.37-1.44)

* 8000 cedis = US\$1 at time of study

survey is however very important because, in most cases, it is the symptoms of the disease that cause people to visit a health care facility. In an

Ethiopian study ⁷, it was shown that 51% of women who came to an STI clinic with symptoms had a confirmed clinical diagnosis. Another study in India ⁸

reported that 72% of women with STI symptoms had a clinically confirmed diagnosis. Despite these results it needs to be stressed that the presence of STI symptoms is not indicative of an STI diagnosis. This is the major limitation of this study. Increasing age was found to protect against having STI symptoms. Sexually transmitted infections are diseases of young sexually active women³ so it is expected that older women would have fewer symptoms. This finding shows that even among young sexually active women, there is some protection that comes with increasing age. The finding cannot be attributed to the absence of lactobacilli in the vagina of the younger women because all the respondents in the study had experienced menarche, the last sign of pubertal development⁹. The role of socio-economic status in the development of STIs has been highlighted in a number of studies¹⁰⁻¹³. A study from Accra among women with incomplete abortions also showed higher rates of bacterial colonization of the genital tract in women of lower socioeconomic status¹³. Low socioeconomic status is associated with greater high risk sexual behaviour¹⁴ and this would lead to a higher incidence of STIs. Wealth index was used as a measure for socioeconomic status in this study.

A history of condom was associated with a woman having STI symptoms. Condoms are known to protect against the development of STI¹. This finding can be explained by the possibility that in this sample a history of condom use could be serving as a proxy for high risk

sexual behaviour. It is also possible that many of those who reported ever using condoms might not have been using them at the time of the study. The finding that only 59% of those who sought care went to medical personnel gives an idea of the reason why the effect of STIs is a major health problem in the sub-region. One way of ensuring that majority of women who seek care get adequate care is to educate the personnel who operate pharmacy shops in Africa on the syndromic approach to treating STIs^{2;7;15}. The use of pharmacy shops for medical consultation in Africa has been reported¹⁷⁻¹⁸ and educating the managers of such shops on how to treat STIs when no laboratory tests are available is probably the most effective of dealing with this problem. The chief reason for not seeking care was that the symptoms were not very severe. The cost of treatment was cited as a reason in only 23% of the responses. This agrees with the finding that monthly income had no effect on the decision to seek care. Low wealth index however significantly reduced the chances that a woman would seek care. This finding highlights the complex interplay between socioeconomic status and health which cannot be simply explained on the basis of health care being expensive. A possible explanation is that with rising socioeconomic status, the perceived importance of health facilities increases and this, results in greater patronage.

In conclusion the findings of our study suggest that designing health education messages, about STI symptoms and the benefits of treatment, that are

targeted at low socioeconomic groups might be an immediately feasible measure that can be implemented to reduce the effects of STI in Accra.

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