

Health seeking behaviour and the control of sexually transmitted disease

HELEN WARD,¹ THIERRY E MERTENS,² AND CAROL THOMAS³

¹*Department of Epidemiology and Public Health, Imperial College School of Medicine at St Mary's, London, UK,* ²*Division of Policy, Planning and Evaluation, World Health Organization, Geneva, Switzerland,* and ³*Department of Applied Social Science, Lancaster University, UK*

What people do when they have symptoms or suspicion of a sexually transmitted disease (STD) has major implications for transmission and, consequently, for disease control. Delays in seeking and obtaining diagnosis and treatment can allow for continued transmission and the greater probability of adverse sequelae. An understanding of *health seeking behaviour* is therefore important if STD control programmes are to be effective. However, taboos and stigma related to sex and STD in most cultures mean that gaining a true picture is difficult and requires considerable cultural sensitivity. At the moment relatively little is known about who people turn to for advice, or about how symptoms are perceived, recognized or related to decisions to seek help. It is argued that such knowledge would assist programme planners in the development of more accessible and effective services, that studies of health seeking behaviour need to include a combination of qualitative and quantitative methods, and that studies should include data collection about people who do not present to health care facilities as well as those who do. A pilot protocol for studying STD-related health seeking behaviour in developing countries is briefly presented.*

Introduction

The control of sexually transmitted disease (STD) is recognized as a global priority (World Bank 1993). HIV is a cause of premature death, and most cases are the result of sexual transmission. Other sexually transmitted diseases cause considerable morbidity, particularly in relation to the reproductive health of women, and are also associated with increased transmission of HIV (Cameron et al. 1991; Jessamine et al. 1990; Nsubuga et al. 1990; Grosskurth et al. 1995). STD programmes are frequently being integrated with broader AIDS programmes in an attempt to address these significant public health problems (Piot and Tezzo 1990). Many STDs, such as syphilis, gonorrhoea and urethritis can be diagnosed and treated, and yet millions of cases in the world are left untreated leading to continued transmission and serious sequelae.

Established epidemiological wisdom suggests that an important way to address the combined problem of sexually transmitted disease and HIV control is through an integrated programme which improves the availability and accessibility of health services, trains primary health care workers in simple diagnostic and management procedures for sexually transmitted

disease (including syndromic algorithms) and their prevention, screens for sexually transmitted disease in pregnant women, raises awareness about sexually transmitted disease and its transmission in the general population, and targets sexually transmitted disease prevention and care programmes at vulnerable groups.

The quality and accessibility of services clearly plays a role in attracting people with, or at risk of, STD (Mertens et al. 1994). However, social stigma around issues of sexual activity and sexually transmitted diseases will have a major influence on patterns of presentation to health care services. In order to increase the proportion of people with sexually transmitted disease who seek effective treatment and counselling, programme planners need to know more about factors that influence health seeking behaviour in relation to sexually transmitted diseases.

A better understanding of lay knowledge and health-related behaviours associated with sexually transmitted disease could assist through helping to direct health education initiatives and public health communication programmes, encouraging the involvement of alternative health care providers (e.g.

traditional healers, pharmacists, injectors) in programmes, improving the quality of public and private services, and through removing or reducing barriers to presentation to health clinics.

In this paper we discuss why knowledge of health seeking behaviour is important for control programmes, briefly review what is currently known about STD-related health seeking behaviour in developing countries, consider conceptual approaches to understanding health seeking behaviour in general, examine some methodological issues in assessing STD-related health seeking behaviour, and report on a protocol for assessing this behaviour.

Epidemiology of sexually transmitted disease

The standard epidemiological model for STD (Yorke et al. 1978; Anderson 1989) defines the basic reproductive rate (R_0) of an STD in a population as a function of the efficiency of transmission β (the average probability of transmitting infection from an infected individual to a susceptible person), the average rate of acquisition of new sexual partners in the population c , and the average duration of infectiousness D . The standard model suggests that these act in a simple multiplicative way: $R_0 = \beta c D$.

Control programmes can be looked at in relation to this model, as shown in Table 1. Interventions directed to reducing any of the parameters should be of use in reducing the incidence of STD. The major interventions currently target rate of partner change through prevention campaigns, and rate of transmission (through the use of condoms and other barriers). Theoretically, therefore, reducing the duration of infectiousness should also be of major importance in STD control.

The significance of health seeking behaviour can be seen in this context. Delays in symptom recognition and seeking care can increase the incidence of disease. In contrast, reducing the time between onset of infection and cure, through improved utilization (through, for example, increased accessibility) of services and education about symptom recognition, could play an important part in STD control. A randomized controlled trial of improved STD treatment in rural Tanzania demonstrated a 40% reduction in the incidence of HIV in the intervention group (Grosskurth et al. 1995). The effect was considered

to be primarily due to a reduction in the duration of STD in males achieved through improved access to services (Laga 1995). Effective partner notification which reduces the duration of infectiousness in partners should also contribute to STD control.

Other influences include self treatment with antibiotics or other methods. Self treatment using inadequate methods may prolong the period of infectiousness prior to presentation for effective treatment, and can also lead to the development of resistant strains.

Development of STD control programmes

There are many constraints on the development of an effective sexually transmitted disease control programme, ranging from a lack of resources and political will to the specific and hidden nature of the diseases. Stigma can result in a general lack of awareness and education about the significance of different symptoms, and a limitation on the sources of lay help and advice. Insensitive responses to people seeking professional advice will further obstruct help seeking, as will legal measures requiring enforced registration, partner notification or treatment (World Health Organization 1991; Day and Ward 1994).

Table 1. The effect of different interventions on the standard model of STD transmission

Intervention	Prevention level	Effect on model
Reduce number of sex partners	1°	$\downarrow c^*$
Safer sex (condoms, non penetrative sex)	1°	$\downarrow \beta$
Early treatment	2°	$\downarrow D + \downarrow \beta$
Partner notification	1° and 2°	$\downarrow D$ (in contact)
Palliative care	3°	?? $\downarrow \beta$ (anti-viral treatment) ?? $\downarrow D$ (prolong life)

* key:

R_0 basic reproductive rate of an STD in a population
 β the average probability of transmitting infection from an infected individual to a susceptible person
 c the average rate of acquisition of new sexual partners in the population
 D the average duration of infectiousness

Each of these influences on the transmission of STD suggests possible directions for control programmes, highlighting the need for a broad knowledge base for planners. If antibiotics are sold over the counter, for example, pharmacists should be involved in developing and using effective management protocols which include encouraging men to tell partners to seek treatment. If women are reluctant to discuss genital problems with a man, female doctors or nurse practitioners can be made available to diagnose and treat STD. An assessment of STD-related health seeking behaviour may find that women and men have little knowledge of symptoms that may occur with an STD, and this topic may then be introduced into health education programmes through schools. If legal obstacles are found to reduce contact with STD services these should be removed.

Health seeking behaviour and sexually transmitted diseases

Health seeking behaviour can be defined as any activity undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy. This definition borrows from Kasl and Cobb's (1966) definition of 'illness behaviour'. Health seeking behaviour should be distinguished from the broader concept *health behaviour*, defined by Kasl and Cobb as any activity undertaken by individuals who see themselves as healthy for the purpose of preventing disease or detecting it in an asymptomatic stage.

In any cultural context, a precondition of most health seeking behaviour is recognition of symptoms. Of key significance, therefore, is the way in which symptoms are interpreted by the individuals affected and by those around them – the meaning the 'symptoms' have, the attribution of cause, and the beliefs held about appropriate and effective treatments (Mechanic and Volkart 1961; Scambler et al. 1981; Morrell and Wade 1976; Wadsworth et al. 1971; Ingham and Millar 1979; Calnan 1987).

Caution is needed in examining health seeking behaviour. Western sociological and socio-psychological research in this area has shown that it is erroneous to adopt simplistic models of health seeking behaviour based on the following rationalistic assumptions: that symptoms of disease or 'risky' behaviours are always identified and/or defined in

health terms; that recognition of symptoms will necessarily or automatically result in health seeking behaviour; that health seeking behaviour will always take the form that scientific medicine thinks is most appropriate (Freidson 1970; Zola 1973; Helman 1978; Kleinman 1980; Blaxter and Patterson 1982; Stainton Rogers 1991; Rosenstock 1974; Rosenstock and Kirscht 1979; Wallston et al. 1978).

If it is erroneous to make such assumptions in relation to industrial societies with highly developed and accessible health care systems then, as anthropologists warn us, particular care needs to be taken to avoid transferring simplistic models of health seeking behaviour to developing countries with very diverse cultural, political and economic characteristics. The inappropriateness of adopting rationalistic approaches to health seeking behaviour can be illustrated in relation to STD-related health seeking behaviour in developing countries. There has been a growth in such research over the past decade, particularly in Africa, prompted primarily through concern about the role of STD in the transmission of HIV.

Many STDs are asymptomatic, particularly in women, or have relatively non-specific symptoms. Therefore symptom recognition and consequent action is only one part of the picture; prompts for screening for asymptomatic infection following potentially risky contacts are also important. Who is consulted once symptoms are recognized will depend on pre-existing beliefs about the likely meaning of the symptoms, the efficacy of different approaches (traditional, spiritual, western medical) for such conditions, and the availability and accessibility of the various potential sources of help. Studies in Swaziland, Nigeria and Mozambique suggest that where symptoms are thought to signify natural imbalances, infidelity or some form of spirit intervention, traditional healers may be the most appropriate initial point of contact for help (Green 1992; Piot and Tezzo 1990; O'Toole 1993). However, there is no simple model relating to beliefs and actions; people frequently seek more than one form of health care during the course of an illness. A detailed study of reproductive infections among women by O'Toole (1993) in Nigeria showed that beliefs about STD related to the specific symptoms, with some seen as the result of sexual activity, usually of their husband, while others were considered the result of a 'natural' imbalance. These beliefs related to choices about care, although many of the women interviewed used more than one type of care, including self treatment

use of traditional healers and modern medical facilities.

Moses and colleagues (1994) report interviews with patients attending urban health centres in Kenya; 27% had sought treatment elsewhere earlier in the same episode of an STD, and these other sources included other public sector clinics (37.7%), private clinics (38.6%) and the informal sector (23.7%). The last group included pharmacists, traditional practitioners and drug peddlers. The authors report:

'The main reasons given for having sought care in the private medical or informal sectors were convenience of access and perceived greater privacy.' (Moses et al. 1994: 1949)

People with symptoms of an STD may thus consult a number of healers in turn. The proportion who visit an official health care clinic at some point during their illness is of importance to state-directed treatment and control programmes. This will vary between countries, between rural and urban areas and with the accessibility of such services. Some reports suggest that, in many parts of Africa, only a minority of people with STD consult public facilities (Green 1992). Among adolescent girls in a rural area of Nigeria, over 805 reported a vaginal discharge but few sought treatment (Brabin et al. 1995). In Kinshasa, Zaire, 87% of 1200 prostitutes participating in a survey had signs and symptoms suggestive of an STD in the previous year, but only 32% had visited an official health care facility (Piot and Laga 1991). In contrast, a population-based study in Tanzania found that nearly all men and 90% of women reporting symptoms of STD had sought treatment in the official health sector (Newell et al. 1993). The proportion of people who consult public clinics will vary as their relative accessibility and affordability change. In Kenya the introduction of clinic fees led to a reduction in attendances, and presumably to a shift to other forms of care (Moses et al. 1992).

The proportion of people attending public clinics is affected by the availability of other sources of care. In Tanzania, 7% of patients attending dispensaries over a four and a half year period in Bukoba rural area presented with STDs (United Republic of Tanzania Ministry of Health 1992). A population study in Zimbabwe suggested considerable self-medication with antibiotics when STD was suspected (Nyazema et al. 1992). Respondents reported sharing antibiotics provided for STD with friends for prophylaxis. The authors suggest that this may under-

lie the growth in drug resistant micro-organisms, and be in part due to the stigma attached to the treatment and management of STD at health centres.

The availability of multiple sources of care, combined with uncertainty about symptoms, stigma surrounding STD and direct problems of access and affordability may lead to considerable delays in diagnosis and treatment. Over 80% of patients seeking STD treatment in Ethiopia had had symptoms for over a week, with 40% already on some form of treatment (Feleke et al. 1990).

A non-clinic sample of sex workers in Ethiopia found that the majority of the women (97.7%) had sought medical care in the public or private sector at some point, but at the time of interview almost half the women reported having symptoms, most of them for one week or more, and had not sought care (Desta et al. 1990). A clinic study of Zulu patients with donovanosis reported that ulcers had been present for over 28 days in 55.4% of the men and 46.3% of the women (O'Farrell 1993).

In a Kenyan clinic study, 42% of patients had been symptomatic for more than a week, and 23% for over two weeks (Moses et al. 1994). The main determinant of a longer time to presentation was to have previously sought treatment elsewhere, including other public or private medical clinics, or the informal sector. Men who reported having recently purchased sex, and women who were selling sex, were likely to present to a health centre earlier than others.

Such delays are likely to lead to an increased probability of long-term complications and to continued transmission. People will not necessarily abstain from sex when they notice symptoms: in one study 36% of patients with genital ulcers, mainly due to donovanosis and secondary syphilis, continued to have sex after noticing the ulcers (O'Farrell et al. 1992). A study of patients attending for STD treatment in Kenya found that 12% of men and 38% of women reported having had intercourse on one or more occasions since their symptoms began (Moses et al. 1994).

Health seeking behaviour in context

This brief outline of aspects of STD-related health seeking behaviour in selected developing countries suggests a complexity and cultural specificity of the

Table 2. Analytical orientations or approaches to health seeking behaviour (McKinlay, cited in Fitzpatrick et al. 1984:37)

The <i>economic</i> :	in which attention is concentrated on the impact of financial barriers to help-seeking.
The <i>socio-demographic</i> :	in which emphasis is on the significance of gross characteristics like gender, age, and education for utilization.
The <i>geographic</i> :	in which the focus of attention is the association between the geographical proximity of health services and utilization.
The <i>social-psychological</i> :	in which the emphasis is on the link between individual motivation, perception and learning, and utilization behaviour.
The <i>socio-cultural</i> :	in which the orientation is towards examining associations between the values, norms, beliefs, and life-styles of different socio-economic groups and utilization.
The <i>organizational or 'delivery system</i> :	in which the focus of attention is on the effects of aspects of health care organization on use of services.

lay meanings and behaviours associated with sexually transmitted disease. Even where symptomatology is recognized in health-related terms, decisions about when, where and how to seek help and/or treatment will depend upon cultural norms and social circumstances.

In addition to factors associated with culturally based systems of lay knowledge, belief and practices, there are a wide range of other factors which shape health seeking behaviour. In his review of studies of health seeking behaviour in the West, McKinlay (1972) identified six analytically distinct orientations or approaches (Table 2).

These categories can be adapted and applied to health-seeking behaviours in developing countries. Clearly, the research on STD-related health seeking behaviour reviewed above falls mainly into the socio-cultural category. However, a fully developed understanding of STD-related health seeking behaviour in specific cultural and societal contexts in developing countries would also require an understanding of the particular role of factors associated with the other analytical approaches listed – especially the economic, geographic, socio-demographic and the organizational.

Kroeger (1983) identified two broad frameworks for looking at health seeking behaviour. First is the

pathway model, which describes the steps of the process from recognition of symptoms to the use of particular health facilities. This method attempts to identify a sequence of steps, and looks at social and cultural factors which affect this sequence. This has been primarily an anthropological approach, with qualitative methods of investigation. The second is the *determinants model*, based on a more bio-medical and quantitative approach where the focus is on outlining a set of determinants (Figure 1) which are associated with the choice of different kinds of health service. Both models are helpful and illustrate the fact that both qualitative and quantitative approaches will be needed to better understand health seeking behaviour (Manderson and Aaby 1992; De Koning and Martin 1996).

Research methods

What is clear from the literature in the fields of medical sociology, health psychology and anthropology is that a broad conceptual framework of health seeking behaviour is required to inform investigation and intervention in STD control, a framework which encompasses processes and factors at the individual and socio-cultural levels, as well as geographical/spatial, demographic, economic and organizational factors. It is this multi-level and multi-factorial approach which has informed the development of a draft WHO protocol for assessing STD-related health seeking behaviour in developing countries by two of the authors of this paper (HW, TEM), reported in the next section.

Particularly important questions for any investigation of STD-related health seeking behaviour to cover include: the systems of lay knowledge which inform the interpretation of particular symptoms; the perceived threat of disease; the extent to which symptoms disrupt family, work and other social activities; the availability of treatment resources, physical proximity, psychological and monetary costs of taking action (including costs, time, money, effort, stigma, social distance, feeling of humiliation and the like); beliefs in the efficiency of recommended health care (itself related to beliefs about the cause of the disease). It should be noted, however, that 'between culture' variation is only one dimension, with considerable, often greater, 'within culture' variation in response to particular symptoms or states.

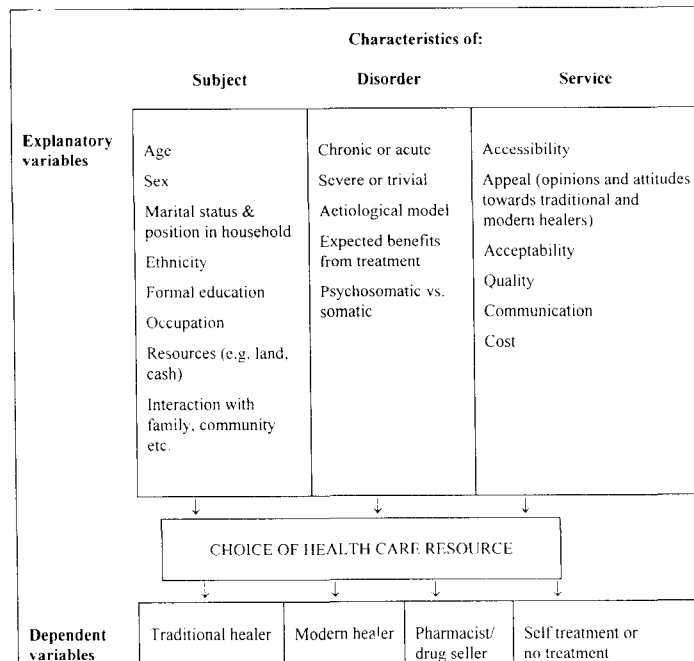


Figure 1. The choice of healer in relation to various possible explanatory variables (after Kroeger 1983)

If an accurate picture of health seeking behaviour is to be built up, careful attention needs to be given to the cultural sensitivity and appropriateness of data collection methods and research methodologies more generally. The taboo and stigmatized nature of STD in most cultures (as well as the frequent repression of discussion about sexuality) will mean that gaining a 'true' picture of health seeking behaviours is particularly difficult and requires considerable cultural sensitivity.

The danger inherent in the use of inappropriate research methods is illustrated by Kaona and colleagues (1990). They reviewed the use of traditional social survey methods in a study about biomedical and ethnomedical health service use in a rural area in Zambia and concluded that the results were 'highly questionable'. Over 80% of 218 respondents had reported seeking treatment at either a clinic or the hospital in the last 8 months despite the fact that the nearest hospital was 90 km away and other facilities were not easily accessible. The authors suggest that the survey respondents were using traditional healing methods but, knowing of the researchers' hostility

towards traditional medicine, had given false information about their health seeking behaviours.

An alternative approach to the standard health survey is presented by Merrill Singer and colleagues (1989) in relation to reproductive illness behaviour in Haiti. They used a door-to-door survey in a selected neighbourhood to identify common reproductive complaints: in-depth interviews were carried out with women who lived in the surveyed neighbourhood or were encountered as outpatients at the local hospital in order to gather information on reproductive history, help-seeking strategies, and beliefs about aetiology and treatment; and the full range of biomedical and folk health-care providers (doctors, nurses, health department officials, spiritual healers, herbal healers, and midwives) were questioned about their treatment of reproductive illness.

Singer et al. (1989) suggest that through gaining 'therapeutic narratives', that is, participant's commentaries on illness progression, help-seeking resort and related events, they were able to gain insight into the complex relationship of 'traditional' and 'modern'

Table 3. Outline of the protocol

Overall Aim	Summary of methods	Expected outcomes
<p>The study will attempt to obtain information on STD health seeking behaviours to answer the following key questions:</p> <ul style="list-style-type: none"> • what genital and non-genital conditions are believed to be STDs (to provide a local taxonomy of STD); • who is at risk of STD locally; • what options are available for health care when a person has an STD; • when a person has a condition believed to be an STD what do they do and where do they seek help; • what are the main influences on people's decisions about where to seek help. <p>The answers to these questions will be used to inform practical proposals about improving STD care.</p>	<p>Four sub-studies will be carried out:</p> <ul style="list-style-type: none"> • Sub-study 1: Review of current knowledge • Sub-study 2: Key informant interviews • Sub-study 3: Focus group discussions and/or individual interviews with groups assessed as having increased risk (from sub-studies 1 & 2) • Sub-study 4: Interviews with people with STD 	<p>The purpose of answering these key questions is to be able to outline points for intervention, including:</p> <ul style="list-style-type: none"> • appropriate education about STD (what they are, how to recognize them, their causes, the need for effective treatment); • availability of effective treatments for STD; • dissemination of information about health care facilities for STD; • improvements in the organization of such facilities (location, costs – relative to other forms of health care, opening times, waiting times, staff attitudes).

medical systems. Their interviews with medical professionals revealed a tendency to discount the ideas and understandings of their patients as irrational, backward and irrelevant, based on the assumption that 'traditional' medicine was static. In contrast, the authors found that 'traditional' healers frequently developed and adapted their practice. Where patients believe that honest and open discussion of their health complaints with a physician is 'more likely to elicit scorn than sympathy' (Singer et al. 1989), they learn to say what they think the physician wants to believe. This too has important implications for the study of health seeking behaviour.

Such research indicates the value of qualitative research methods in elucidating health-related meanings, beliefs and behaviours among lay people. Qualitative research methods are, in fact, essential if an understanding of the pattern of decisions and actions in relation to STD is to be developed. However, qualitative methods alone are insufficient. A sophisticated model of health seeking behaviour also requires other information requiring quantitative methodologies: information on demographic, socioeconomic, socio-cultural and the spatial distribution of STD and of health care practitioners and facilities (both modern and traditional).

The nature of the relationship between traditional and modern medicine in STD control is crucial. Attitudes

towards traditional medicine will have an important impact on the effectiveness of control programmes. As Pillsbury noted in 1978:

'In many cases prejudice on the part of health planners against traditional . . . aspects of their own cultures has precluded understanding of traditional therapies . . . [However] health care for the rural and urban poor cannot be satisfactorily provided without a basic understanding of the traditional and other local practices of the intended beneficiaries and the value and belief systems that underpin health-related behaviour.'

Draft protocol for investigating health seeking behaviour in relation to STD

A draft protocol was developed for the assessment of health seeking behaviour. The protocol is available in draft form for field test from the World Health Organization. Its development has been informed by the argument presented in the previous section that a broad multi-level and multi-dimensional conceptual framework for understanding STD-related health seeking behaviours is required. The overview of the protocol is shown in Table 3, with details of each sub-study in Table 4. Outline interview schedules have been developed, but are not presented for reasons of space.

Table 4. Outline of the aims, methods and outcomes of the sub-stages of the protocol

Sub-study & aims	Outline of methods	Outcomes
Sub-study 1. Review of current knowledge to inform the rest of the studies	Review of published and unpublished material identified through: <ul style="list-style-type: none"> ● library search ● university/library search for unpublished theses ● local social scientists ● national AIDS, STD and family planning programmes ● non-governmental organizations ● routine data sources 	A description of: <ul style="list-style-type: none"> ● common STDs in the area ● local names for these STDs ● prevailing beliefs about STD ● groups most affected ● outline of what people do when they have STD ● range of providers of services Inform the design of sub-study 2 (decide on key informants, interview schedules)
Sub-study 2. Key informant interviews To describe local beliefs about local STD, who gets them, where people go for help	Semi-structured interviews by trained field workers with 10-15 people including: <ul style="list-style-type: none"> ● community figures who may know who is at risk and where they go, e.g. bar owners, taxi drivers, and leaders of women's, prostitutes', army/police, and migrant workers' organizations. ● providers of health care, e.g. doctors/nurses (private/public), pharmacists, traditional healers, midwives, traditional birth attendants. 	Enhanced version of outcomes of sub-study 1, with addition of different perspectives. Inform decisions about who to include in sub-study 3, and whether focus groups, individual interviews or a combination would be appropriate.
Sub-study 3. Focus group discussions and/or individual interviews To obtain a range of perspectives on health seeking behaviour and STD among particular social groups	(a) <i>Focus groups</i> : from people at risk of STD as agreed in 1/2, eg: <ul style="list-style-type: none"> ● soldiers ● factory workers ● prostitutes ● bar patrons ● migrants & business travellers ● drivers ● adolescents A selection of 8-10 people from the groups, led by a social scientist (b) <i>Individual interviews</i> of 10-15 people from members of groups as in (a). To explore individual experience narratives.	<ul style="list-style-type: none"> ● Detailed descriptions of lay-beliefs and practices relevant to STD and health behaviour ● Outline of main perceived obstacles to use of existing health care facilities and how these may vary by group ● Individual narratives of previous experience with STD and use of different facilities during that episode This section should provide practical guidance for planners on the major obstacles to 'appropriate' health seeking behaviour.
Sub-study 4. Interviews with people with STD To see how reported actions from previous interviews and groups relate to current behaviour when a person has an STD	Individual interviews with people who have an STD, 15 in each of: <ul style="list-style-type: none"> ● public facilities (clinics, hospitals) ● private facilities (clinics, pharmacies) ● traditional healers ● others (as identified in sub-study 2). 	Description of the patterns of health seeking in the context of a specific STD episode. This will add to the practical proposals emerging from the other sub-studies.

The approach is primarily qualitative, to obtain descriptions of the issues from a number of perspectives. The study could be complemented by a population based survey, but for initial purposes of programme development, determining with precision the frequency of behaviours and beliefs is less crucial than obtaining an overview of the key factors which may influence people's choice of action and provider when faced with a possible STD. For pragmatic reasons the study focuses on providing practical information for those planning STD control programmes, and is designed to be carried out in a short period of time with relatively limited resources. Eliciting narratives about what people have done when they have experienced symptoms in the past is an important part of the study, and requires that experienced ethnographers be included in the research team.

Conclusion

Health seeking behaviour cannot be understood in isolation from socio-cultural and other factors relevant to health and sex – including pressures to conform to some moral norm, legal repression of certain kinds of sexual activity, absence of sex education, and poor quality health services in general. However, studying what people think and do when they have symptoms associated with an STD could help to address real obstacles to a good control programme, and allow sections of the population to explain the problems from their own perspective which should, if programme planners are willing to act, assist in the control of sexually transmitted diseases and HIV.

Endnote

* The pilot protocol is available from the WHO, Geneva, Switzerland.

References

- Anderson RM. 1989. Editorial review: mathematical and statistical studies of the epidemiology of HIV. *AIDS* **3**: 333–46.
- Blaxter M, Paterson E. 1982. *Mothers and daughters*. London: Heinemann Educational.
- Brabin L, Kemp J, Obunge OK et al. 1995. Reproductive tract infections and abortion among adolescent girls in rural Nigeria. *Lancet* **345**: 300–4.
- Calnan M. 1987. *Health and illness: the lay perspective*. London: Tavistock.
- Cameron DW, Ngugi EN, Ronald AR et al. 1991. Condom use prevents genital ulcers in women working as prostitutes: influence of human immunodeficiency virus infection. *Sex Transm Dis* **18** (3): 188–91.
- Day S, Ward H. 1994. Prostitution and sexually transmitted disease. In: Bergström S, Lankinen KS, Mäkelä PH, Peltomaa M. (eds). *Health and Disease in Developing Countries*. London: Macmillan Press.
- De Koning K, Martin M (eds). 1996. *Participatory research in health*. London: Zed Books.
- Desta S, Feleke W, Yusuf M. 1990. Prevalence of STD and STD related risk factors in sex workers of Addis Ababa. *Ethiop J Health Dev* **4** (2): 149–53.
- Feleke W, Ghindinelli M, Desta S, Yusuf M. 1990. Some social features of STD patients in Addis Ababa, Ethiopia. *Ethiop J Health Dev* **4** (2): 143–7.
- Fitzpatrick R, Hinton J, Newman S, Scambler G, Thompson J. 1984. *The experience of illness*. London: Tavistock.
- Freidson E. 1970. *Profession of medicine: a study of the sociology of applied knowledge*. New York: Harper Row.
- Godin G, Fortin C, Mahnes G et al. 1993. University students' intention to seek medical care promptly if symptoms of sexually transmitted diseases were suspected. *Sex Transm Dis* **20** (2): 100–4.
- Green EC. 1992. Sexually transmitted disease, ethnomedicine and health policy in Africa. *Soc Sci Med* **35** (2): 121–30.
- Grosskurth H, Mosha F, Todd J et al. 1995. Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: randomised controlled trial. *Lancet* **346**: 530–6.
- Helman C. 1978. "Feed a cold and starve a fever" – Folk models of infection in an English suburban community and their relation to medical treatment. *Culture, Medicine and Psychiatry* **2**: 107–37.
- Ingham J, Miller P. 1979. Symptom prevalence and severity in general practice. *Epidem Commun Hlth* **33**: 191–8.
- Jessamine PG, Plummer FA, Ndinya Achola JO et al. 1990. Human immunodeficiency virus, genital ulcers and the male foreskin: synergism in HIV-1 transmission. *Scand J Infect Dis (Suppl)* **69**: 181–6.
- Kaona FAD, Siziya S, Mushanga M. 1990. The problems of a rural survey in epidemiology: an experience from a Zambian rural community. *Afr J Med Sci* **19**: 219–24.
- Kasl S, Cobb S. 1966. Health behaviour, illness behaviour and sick role behaviour. *Archives of Environmental Health* **12**: 246–66.
- Kleinman AM. 1980. *Patients and healers in the context of culture*. Berkeley: University of California Press.
- Kroeger A. 1983. Anthropological and socio-medical health care research in developing countries. *Soc Sci Med* **17** (3): 147–61.
- Laga M. 1995. STD control for HIV prevention – it works! *Lancet* **346**: 518 (commentary).
- Manderson L, Aaby P. 1992. An epidemic in the field? Rapid assessment procedures and health research. *Soc Sci Med* **35** (7): 839–50.
- McKinlay J. 1972. Some approaches and problems in the study of the use of services: an overview. *Journal of Health and Social Behaviour* **13**: 115–52.
- Mechanic D, Volkart E. 1961. Stress, illness behaviour and the sick role. *American Sociological Review* **20**: 51–8.
- Meheus A, Schulz KF, Cates W. 1990. Development of prevention and control programs for sexually transmitted diseases in developing countries. In: Holmes KK, Mardh P, Sparling PF et al. (eds). *Sexually Transmitted Diseases*. McGraw Hill.
- Mertens T, Carael M, Sato P et al. 1994. Editorial review: Prevention indicators for evaluating the progress of national AIDS programmes. *AIDS* **8**: 1359–69.

- Morrell D, Wade C. 1976. Symptoms perceived and recorded by patients. *Journal of the Royal College of General Practitioners* **31**: 746–50.
- Moses S, Manji F, Bradley JE et al. 1992. Impact of user fees on attendance at a referral centre for sexually transmitted diseases in Kenya. *Lancet* **340**: 463–6.
- Moses S, Ngugi EN, Bradley JE et al. 1994. Health care-seeking behaviour related to the transmission of sexually transmitted diseases in Kenya. *Am J Public Health* **84**: 1947–51.
- Newall J, Senkoro K, Mosha F et al. 1993. A population-based study of syphilis and sexually transmitted disease syndromes in north-western Tanzania. 2: Risk factors and health seeking behaviour. *Genitourin Med* **69**: 421–6.
- Nsubuga P, Mugerwa R, Nsibambi J, Sewankambo N, Katabira E, Berkley S. 1990. The association of genital ulcer disease and HIV infection at a dermatology-STD clinic in Uganda. *J Acquir Immune Defic Syndr* **3** (10): 1002–5.
- Nyazema NZ, Chavunduka D, Dzimwasha M et al. 1992. Layman's perception of antimicrobial agents: a challenge to health education strategy in Zimbabwe. *E Afr Med J* **69** (3): 126–9.
- O'Farrell N, Hoosen AA, Coetsec KD, van den Ende J. 1992. Sexual behaviour in Zulu men and women with genital ulcer disease. *Genitourin Med* **68**: 245–8.
- O'Farrell N. 1993. Clinico-epidemiological study of donovanosis in Durban, South Africa. *Genitourin Med* **69** (2): 108–11.
- O'Toole E. 1993. Reproductive infections among women in Ado-Ekiti, Nigeria: symptoms recognition, perceived causes and treatment choices. *Health Transition Review* **3** (suppl): 135–49.
- Piot P, Laga M. 1991. STD control in developing countries. In: Wasserheit JN, Aral SO, Holmes KK, Hitchcock PJ (eds). *Research issues in human behaviour and STD in the AIDS era*. Washington: American Society for Microbiology.
- Piot P, Tezzo R. 1990. The epidemiology of HIV and other sexually transmitted infections in the developing world. *Scand J Infect Dis* (suppl) **69**: 89–97.
- Rosenstock I, Kirscht J. 1979. Why people seek health care. In: Stone G, Cohen F, Adler N (eds). *Health Psychology – A Handbook: Theories, applications and challenges of a psychological approach to the health care system*. San Francisco: Jossey-Bass.
- Rosenstock IM. 1974. Historical origins of the health belief model. *Health Education Monographs* **2**: 409–19.
- Scambler A, Scambler G, Craig D. 1981. Kinship and friendship networks and women's demand for primary care. *Journal of the Royal College of General Practitioners* **26**: 746–50.
- Singer M, Davison L, Gerdes G. 1989. Culture, critical theory and reproductive illness behaviour in Haiti. *Med Anthr Q*: 370–85.
- Stainton Rogers W. 1991. *Explaining health and illness: an exploration of diversity*. Hemel Hempstead, UK: Harvester Wheatsheaf.
- United Republic of Tanzania Ministry of Health. 1992. A short manual on the management of sexually transmitted diseases. Dar es Salaam.
- Wadsworth M, Butterfield W, Blaney R. 1971. *Health and sickness: the choice of treatment*. London: Tavistock.
- Wallston B et al. 1978. Development of the Multidimensional Health Locus of Control (MHLC) scales. *Health Education Monographs* **6**: 160–70.
- World Bank. 1993. *World Development Report 1993: Investing in Health*. New York: Oxford University Press.
- World Health Organization Study Group on Management of Sexually Transmitted Diseases Patients. 1991. Management of patients with sexually transmitted diseases: report of a WHO study group. *WHO Technical Report Series* 810. Geneva: WHO.
- Yorke JA, Hethcote HW, Nold A. 1978. Dynamics and control of the transmission of gonorrhoea. *Sex Transm Dis* **5**: 51–8.
- Zola I. 1973. Pathways to the doctor: from person to patient. *Soc Sci Med*: 677–89.

Biographies

Dr Helen Ward is a Senior Lecturer in the Department of Epidemiology and Public Health at Imperial College School of Medicine at St Mary's in London. Her clinical background is in genitourinary medicine, with research interests in the control and management of sexually transmitted diseases, and the development of female controlled methods for the prevention of HIV and STD transmission. She has worked with the Global Programme on AIDS on methods for the evaluation of AIDS/STD control programmes, and developed sexual health programmes for prostitutes in the UK and across Europe.

Dr Thierry E Mertens is currently Head, Development of Policy and Programme Evaluation, at the World Health Organization (WHO). Between 1992 and 1995 he was Chief, Surveillance, Evaluation and Forecasting of the Global Programme on AIDS of WHO in Geneva. Previously he was based at the London School of Hygiene and Tropical Medicine, as lecturer in Epidemiology and director of research programmes in child health and development in Brazil, Burkina Faso and Somalia (1987–1991). He has also worked in Sri Lanka (1986–1987) and was Director of Public Health in northern Kivu, Zaire (1983–1985).

Dr Carol Thomas has been a Lecturer in the Department of Applied Social Science at Lancaster University since September 1995. For the previous six years she was a Lecturer/Senior Lecturer at Sheffield Hallam University, and co-ordinated a research programme in Health Promotion and Public Health in the Health Research Institute at SHU in 1994/5. A sociologist of health and illness, Carol's current research interests include: women and disability; the psycho-social needs of cancer patients; health inequalities; and women's health in Europe.

Correspondence: Dr Helen Ward, Dept of Epidemiology and Public Health, St Mary's Hospital Medical School, Norfolk Place, London, W2 1PG, UK.