

SESSION TWO: *Sex Education of the Public and of Doctors*

VD education in developing countries *A comparison with developed countries*

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Summary

No new method of control of the sexually transmitted diseases is imminent. Reliance has to be placed on existing methods including health education.

Health education has a double role, being a primary method in its own right, and—of equal or greater importance—being involved in the enforcement of all of the other tried methods.

A comparison is made of the situation in countries with a developed or an underdeveloped venereal disease control service, in respect of organization, statistical reporting, the various agencies treating venereal disease, clinic and diagnostic facilities, personnel concerned in venereal disease management, and other aspects.

The vicious circle inherent in developing countries is outlined. A lack of awareness of the extent of the problem and the presence of other serious competing diseases lead to a low budget, thence to poor diagnostic and treatment facilities, and to few cases being seen in the official clinics and hospitals. Thus relatively small numbers of cases are reported and there is consequently a continuing lack of awareness of the problem. A method of cutting through such a circle is suggested, and the importance of health education activities during this period is emphasized.

There is a world-wide need for better training of physicians, paramedical workers, and nurses in the management of the venereal diseases, including case finding and health education. In a great many developing and developed countries, the bulk of such management is conducted by general practi-

tioners and it is logical that they should be involved more closely in the programme by providing them with assistance in diagnosis, contact tracing, and postgraduate education. As pharmacists are legally or unofficially involved in many areas with few facilities, it may be asked how their contribution may be made more effective pending the development of more extensive official programmes.

Introduction

Health education has a double role in venereal disease control. Not only is it a primary method in its own right but it is also required to ensure the effective implementation of other control procedures: legislation and regulation, provision of adequate facilities for early diagnosis and treatment, case finding through contact tracing and screening, community and personal prophylaxis, and research. In any given country the capabilities and application of health education must necessarily be adapted to the existing organizational and operational framework.

In this paper comparisons are made of various aspects of this framework in a developed and an underdeveloped service. These terms, however, are not necessarily synonymous with developed and developing countries.

Organization of a VD service

In Table I a comparison is made of some facets of basic organization.

In practice no country has a fully adequate budget. In all countries the sum allocated for the control of genito-infectious disease is in competition with those required for more pressing problems which in developing countries include malaria, tuberculosis, gastrointestinal and respiratory disease, malnutrition, measles, meningitis, and other conditions. Furthermore, all countries are experiencing increasing difficulties because of inflation.

TABLE I *Organization of VD service*

<i>Service</i>	<i>Developed</i>	<i>Intermediate</i>	<i>Underdeveloped</i>
Budget	Adequate	Inadequate	Minute
Ministry VD adviser	Yes	Probably No	No
Government operated clinics	Many	Some	Very few
VD integrated into general medical services	No	Often	Usually
Legislation	Present	Present	Present

In countries with a well-developed service there is an established network of government-operated clinics where the majority of patients with venereal disease may be treated; in those with an underdeveloped service these patients are absorbed into and lie hidden within the general medical services.

In developed countries a whole or part-time adviser with personal experience in the management of patients with venereal disease is available at Ministry level. In developing countries the responsible physician at headquarters, who necessarily combines this responsibility with that for other diseases, frequently has no personal practical experience in this field and there is no trained adviser to help him.

Most countries have some basic legislation concerning venereal diseases defining responsibilities, the diseases to be treated, and their legal implications. Other legislation, such as the prohibition of treatment by unqualified persons or the sale of antibiotics without a doctor's prescription—or even compelling infected persons or contacts to be treated likewise exists. In many developing countries such laws have frequently been inherited from the previous colonial government.

It has been clearly shown in many places that the existence of a law is useless without the means to enforce it. In many countries this especially applies to pharmacists who, in spite of clear legislation to the contrary, may treat the majority of cases. Indeed, if there is insufficient provision of legitimate facilities, motivation for law enforcement is also lacking.

Agencies treating venereal disease

The estimated proportion of cases of venereal disease treated by the various agencies involved in a developed and underdeveloped service is shown in Table II.

Where there is a highly developed service, as for example in Great Britain, the majority of cases at least of syphilis and gonorrhoea are treated in the official clinics (British Cooperative Clinical Group, 1959, 1968; Heywood and Bacon, 1973), but nevertheless in many developed countries most cases, perhaps the great majority, are still treated outside

TABLE II *Proportion of total venereal diseases treated by different agencies*

<i>Service</i>	<i>Developed</i>	<i>Intermediate</i>	<i>Underdeveloped</i>
Official clinics	Many-most	Some	Some
Other hospital departments	Some	More	Many
Health centres and aid posts	None-some	Some	Many
Private hospitals	Some	Some	More
General practitioners	Some-most	Most	Variable*
Pharmacists	None-some	Many	Usually most
Quacks and others	None	Some	Many
No treatment	Some	More	Many

*Depending on the number of doctors

the established clinics. In the United States, for example, it is estimated that approximately four-fifths of patients are treated by general practitioners (McKenzie Pollock, 1970). In developing countries, where more patients are treated in out-patient and other hospitals departments and in other health units, private practitioners have a variable role as there may be few of them. In countries with a paucity of doctors, their place is taken by pharmacists and by those practising folk-lore medicine (*e.g.* herbalists) in organized centres but more frequently in the market place or village, while many patients remain untreated.

Statistical reporting

The comprehensiveness of the reporting of cases also differs widely (Table III).

TABLE III *Reporting of cases*

<i>Agencies</i>	<i>Government</i>	<i>Non-governmental</i>
Reporting Usual	Special clinics Large and small Government hospitals Some health centres	Some mission hospitals Some university clinics
Not usual	Other specialist hospital departments Rural aid posts	Some mission hospitals Private hospitals Industrial facilities Some university clinics Military clinics General practitioners 'Native' practitioners Pharmacists Quacks No treatment

In both developed and developing countries the bulk of reported cases are those treated in the established clinics; indeed, the recorded size of the venereal disease problem is apparently related to the number of such centres: if the facilities are meagre

the problem also is apparently small. Patients treated as out-patients in large and small government hospitals are usually reported in developing countries and in developed countries with a rigid reporting system, but in many of the latter they are not notified. In developing countries statistical reports may be submitted by student health clinics, and the mission hospitals, which provide a considerable degree of health care particularly in rural areas, now usually cooperate in statistical reporting.

In both developed and developing countries cases treated in other specialist departments, in private (*e.g.* industrial) clinics, and in some mission hospitals, are usually unreported, as are the large numbers treated throughout the world by private practitioners and in the military services. In developing countries the cases treated in Health Centres and smaller units are frequently reported, but as the diagnoses are suspect the figures may not ultimately be collated. No record at all is forthcoming of the cases treated by 'native' practitioners, pharmacists, and quacks, or of those who receive no treatment.

Clinic facilities

These are summarized in Table IV.

Clinics restricted to patients with venereal and other sexually acquired diseases are operated on a general basis in only a few countries (*e.g.* Great Britain), and in many more countries these are combined with clinics for skin diseases. The standard of premises varies widely and is frequently poor even in developed countries (PAHO, 1974). In those with an underdeveloped service they may be even worse, and this—combined with limited hours of operation, remoteness from the town centre, and inadequate contact tracing—results in relatively few patients being attracted, thus giving the false impression that the hours of operation are sufficient.

TABLE IV *Clinic facilities*

<i>Service</i>	<i>Developed</i>	<i>Intermediate</i>	<i>Underdeveloped</i>
For VD only	Many in few countries	Some	Very few
VD combined with other specialty	Many in many countries	Some	Very few
Standard of premises	Fair to excellent	Poor to fair	Fair to bad
Hours of operation	Adequate	Variable	Often inadequate to attract patients
Facilities for contact tracing	More adequate	Variable	Inadequate

Diagnostic facilities

The arrangements in the organized units treating venereal diseases are summarized in Table V.

In the small units of developing countries, smear

TABLE V *Diagnostic facilities*

<i>Service</i>	<i>Developed</i>	<i>Intermediate</i>	<i>Underdeveloped</i>	
			<i>Clinics and large hospitals</i>	<i>Small units</i>
Clinical diagnosis only	Very seldom	More often	Common	Nearly always
Instant smear diagnosis for gonorrhoea	Yes	Yes	Yes, but results often delayed	No
Cultures for gonorrhoea	Available and good	Restricted and variable	Some and poor	No
Dark-field	Yes	Yes	No	No
Serum tests for syphilis	Yes	Yes	Restricted	No
Reference laboratory backing	Yes	Usually yes	Maybe no	No tests done

and cultural facilities for the diagnosis of gonorrhoea or dark-field and serum tests for syphilis are usually non-existent. Diagnosis on clinical grounds without pathological support is the rule, and follow-up is usually very poor. In the clinics and larger hospitals the only improvement on this situation may be the availability of methylene blue or Gram-staining for the gonococcus, but this may be performed in a laboratory remote from the clinic so that the results are returned too late to influence either the treatment given or the statistical recording of the diagnosis which has already been made.

In some such countries results may be confused by the present or past existence of the non-venereal treponematoses—pinta, yaws, or endemic syphilis, false positive readings due to malaria, leprosy, and other diseases, and the serological procedures are themselves still frequently outmoded, being based in some areas on the Kahn test.

In developed countries at least two serological tests for syphilis are normally available for routine purposes with more sophisticated procedures using treponemal antigens for reference purposes. Screening tests for syphilis are used on expectant mothers and blood donors and variously in different countries before marriage, on immigrants, and on certain sections of the population such as food-handlers and prisoners. Gonorrhoea screening, which requires genital examination, is used less often but has been shown to give productive results in many areas (Zackler, Orbach, Brolnitsky, and Brown 1972), particularly when applied with discrimination. For such screening a satisfactory culture service is vital.

An adequate diagnostic service is thus required to detect the frequent asymptomatic infections in both sexes although, in dealing with contacts of known infections, epidemiological treatment is used of necessity.

Personnel

The persons treating venereal disease within the government service are indicated in Table VI.

TABLE VI *Persons treating VD within government service*

Service	Developed	Intermediate	Underdeveloped
Clinics solely for VD	Specialist venereologist	General physician	Paramedical worker; any available physician
Clinics combined with dermatology	Dermato-venereologist	General physician	Paramedical worker; any available physician
Hospital out-patients	Refer to VD clinics	Any available physician	Any available physician; nurse
Health centres	Usually physician	Physician or paramedical worker	Paramedical worker
Aid posts	None	Paramedical worker	Medical orderly

The term 'physician' is used in its widest sense, *i.e.* a medically qualified 'doctor' rather than 'internist'

In a few countries with a developed service, patients with venereal diseases attending the clinics are treated by a specialist venereologist; where venereology is combined with dermatology patients are usually managed by a dermato-venereologist, although some of those in charge of major clinics in the larger cities may be engaged predominantly in venereology. Patients seen in the hospital out-patients department are usually referred to the clinics except in small hospitals and health centres in rural areas where they may be treated by a general 'all purpose' physician or—in the case of a very large country like the U.S.S.R.—by a paramedical worker or 'feldsher' (Willcox, 1964).

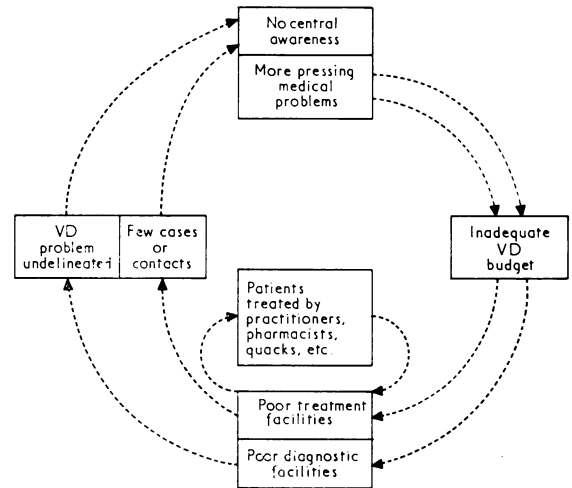
In countries with an underdeveloped service there are no venereologists or dermato-venereologists and the few clinics are managed by paramedical workers, although there is usually a general physician in nominal charge who takes a variable degree of interest in the matter. In the larger hospitals with no clinics the patients are usually seen in out-patient departments by general physicians who frequently lack expertise in the subject, many not being indigenous to the country but employed on contract for a relatively short time, and not infrequently by nurses. In the smaller hospitals and health centres patients are usually managed entirely by paramedical workers who have been trained at a paramedical college. In the rural aid posts, where the problem of venereal disease is much smaller, they are treated by medical orderlies, often working on a part-time basis.

There is a world-wide deficiency in undergraduate and postgraduate training in the management of

the venereal diseases in all branches of the medical profession (Webster, 1966).

The vicious circle in the developing countries

The vicious circle which bedevils the developing countries and causes and maintains the conditions described is illustrated in the Figure.



There tends to be a lack of awareness of the importance of the problem at headquarters, partly because its extent and seriousness has not been delineated and partly because relatively small numbers of patients attend the official clinics—as already noted. In some cases such unawareness may be feigned in a situation of strongly competing medical priorities but in either event the result is an inadequate budget.

In consequence the diagnostic and treatment facilities are poor, few contacts are traced, and patients seek treatment from private general practitioners where they are available and can be afforded or, if not, from pharmacists, quacks, and so on. In this way the inadequate delineation of the problem persists with relatively few patients treated in the government facilities, unimpressive statistics, and a continuing unawareness of the need for improvement.

The role of health education in developing countries

Health education aimed at patients to persuade them to attend for early diagnosis and treatment and to cooperate with contact tracing, and at physicians to encourage them to adopt case finding procedures, works in a vacuum in the absence of satisfactory basic facilities.

The emphasis has therefore to be laid on the primary role of health education in trying to promote sexual discrimination and to discourage promiscuity, in spite of its limitations in a rapidly changing society as is exemplified by the high rates of infection

amongst the better educated (*e.g.* university students: Arya and Bennett, 1967; Juhlin, 1968). Although the success of health education is variable, the relative importance of primary health education is greater in developing countries where opportunities for the reinforcement of the other methods of control are more limited.

In its secondary role of reinforcement, the accent can also be placed on prevention by means of the condom, but this approach, too, may be found to be controversial for religious and other reasons. This is particularly so in countries where there is a moral stigma on venereal diseases which are regarded differently from other medical problems; this may be one of the reasons why adequate facilities have not yet been provided, as opposition to such an approach may be greater in developing than developed countries.

The need to change the attitude of those at the top To improve this situation the first step is to convince those in charge of health programmes that a serious venereal disease problem exists or is likely to exist and that it should at least be assessed. This requires a change of attitude on the part of administrators, legislators, and politicians. The change may come about from the influence of other members of the medical profession, from youth or other groups, or from other organizations within the country. It may result from prompting by an outside governmental or non-governmental agency, not least as a result of local physicians attending medical meetings in other countries and continents.

Need for a survey The next step is to arrange for an evaluation of the extent of the problem and available facilities. As the overall number of doctors will be small it is unlikely that a locally trained venereologist or dermato-venereologist will be available and the short-term appointment of a consultant from outside the country may have to be made, for which funding from an international source can probably be found.

The visiting consultant will probably find that the laboratory support in the few existing clinics is such that little true distinction can be achieved between primary and secondary syphilis, soft sore, and genital herpes—or even granuloma inguinale—or between gonorrhoea and non-gonococcal urethritis, trichomoniasis, or thrush. Nevertheless, much useful data may be obtained by travelling round to out-patient health units great and small, including governmental, prison service, university, industrial, and military installations. In both government and private hospitals, the visitor must look for present or past evidence of late syphilis in the medical wards, stricture and epididymitis in the surgical wards, ophthalmia neonatorum in the obstetric units, and salpingitis in gynaecological units. This may be reinforced by other information gleaned from

pathological and microbiological records, including cervical cytology results where available, and by seeing personally as many patients as possible. With the opportunity of working in a free environment which cuts across the normal channels of communication and the inhibitions of local members of the health service, the approximate size of the total problem will quickly emerge.

Initiating the service Such a consultant will almost inevitably suggest the immediate improvement of the laboratory facilities to provide the results of tests in time to influence treatment and increase the accuracy of statistical reporting. The simplification and standardization of serological tests for syphilis may be indicated, and the development of or links with a reference laboratory, the momentum from which can then spread through the existing pathological service. At least one model clinic should be started where, with improved pathological facilities, problems can be more accurately delineated; this can act as a training centre for undergraduates, physicians, and paramedical workers.

However, it is necessary first to appoint and train a physician not only to administer such a clinic but also to advise the Health Department on the maintenance, expansion, and coordination of a comprehensive control programme for the whole country, including the education of medical personnel and of the general public.

It is extremely desirable that an indigenous physician be chosen for this purpose and in the absence of local facilities it will be necessary for him to be sent overseas for training. In the meantime, if the programme is to develop before this training is completed, the temporary appointment of an outside physician for this purpose should be contemplated.

Developing the service Once such a physician is established he will, in cooperation with the District Health Officers, make regular visits to all clinics and hospitals in which venereal diseases are treated, checking treatment facilities and laboratory performance, and particularly contact tracing and the treatment of contacts so found. The fragmented existing service will thus become more coherent and in time other clinics, integrated (or 'disguised') in the out-patient framework, will come into being. With the increased budget now allowed, he will press for diagnostic and treatment facilities to be improved. Once this is achieved, the emphasis of health education can be switched from legislators, health administrators, and physicians at headquarters to the public at large to promote the use of the clinics. This will divert more patients away from pharmacists and quacks, and thereby ensure better opportunities for contact tracing.

During the whole of this time the continued education of existing physicians and paramedical

workers, and their future replacements, is required, emphasizing the necessity of providing an accurate diagnosis where possible, at least in the hospitals, the importance of contact-tracing and treatment, and encouraging the use of existing facilities in other specialities for screening (*e.g.* serum tests on expectant mothers in obstetric clinics and cultural tests for gonorrhoea in obstetric, gynaecological, family planning, and other clinics, dealing with the female not forgetting the student health clinics).

The opportunity should also be taken, wherever such methods are locally acceptable, of conducting simple clinical examinations of 'captive' groups, *e.g.* prisoners, military recruits, soldiers on return from leave, and workers on engagement by industrial enterprises.

Research, much of a relatively simple nature, requires fostering from the outset, particularly regarding the antibiotic sensitivities of the gonococcus and of the results obtained by the treatment schedules selected. This can be followed by investigative screening to delineate target groups and by studies of the behaviour and attitudes of such groups combined with attempts to determine the effectiveness of health education procedures.

Throughout the developmental stages of the programme an expanding budget is required, and as progress is made with other serious medical problems the sexually transmitted diseases will gradually receive a larger share of the budgetary 'cake'.

Comparison with developed countries Even in countries with a well-developed service and good diagnostic and treatment facilities, the competition of other problems remains to restrict the budget devoted to venereal diseases. These include demands for radio-isotopes, complex laboratory equipment, and surgical instruments, expensive installations for intensive care, premature baby units, radiotherapy departments, larger and better hospitals, and higher salaries for those who work in them. It is impossible to fulfill all the needs at once, if ever.

With the expanding and increasingly overcrowded curriculum and intake to the medical schools, the training of doctors in venereal disease management is still inadequate. More physicians are qualifying but often with less training in this subject than before.

Clinic facilities have consequently not been brought up to the required standard in many areas, thus perpetuating the major obstacle to their usage, and hundred and thousands of cases are still treated by private practitioners who themselves are frequently inadequately trained.

Although syphilis has been subjected to a considerable measure of control, it has enjoyed a significant degree of resurgence in many large cities, particularly amongst homosexuals (British Co-operative Clinical Group, 1973). The reasons for

this are not entirely clear. In spite of the facilities for easy diagnosis and treatment in countries with a highly-developed service, the figures for gonorrhoea have mounted startlingly all over the world (Guthe and Willcox, 1971). With the better delineation of these two diseases resulting from good facilities, the 'other' sexually transmitted diseases are increasing which makes even greater demands on premises, personnel, and money not only for day-to-day management but also for the expanding research programmes now found to be necessary.

In the developed countries continued research must be encouraged to devise simpler diagnostic screening tests, particularly of gonorrhoea, and immunizing procedures either by vaccines (possible against syphilis in the rabbit (Miller, 1972) but not yet fit for testing in man, but so far ineffective in gonorrhoea—see Greenberg, 1974) or by the stimulation of local antibodies (shown to be possible in candidiasis—Waldman, Cruz, and Rowe, 1972).

No new method is 'just around the corner' and reliance has therefore to be placed on existing control measures including health education for which research is also required to make it effective. There is need for further study of all aspects of human sexuality, the behaviour leading to infection with venereal disease, existing methods of control and how they can best be promoted and applied to the so-called problem or target groups. Research is especially needed into more acceptable techniques of prophylaxis and methods of evaluating the success or failure of health education programmes.

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