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DEFAULT AMONG PATIENTS WITH GONORRHOEA -THE ROLE OF HEALTH EDUCATION

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Summary

Factors relating to default among 109 'health educated' and 63 'uneducated' patients with gonorrhoea were studied. Default was not significantly associated with age, marital status or level of education. Repeaters were not particularly more prone to default than non-repeaters. Health education did not significantly influence default.

Default was significantly low ($p < 0.001$) among a small group of patients with concomitant diseases detected at the initial or follow-up visits. A high incidence of trichomoniasis (14.5%) in the present study detected in the follow-up period emphasizes the need for thorough clinical and laboratory examination at each follow-up visit.

KEY WORDS: Gonorrhoea, Follow-up, Default, Health-education, Trichomoniasis.

Default is a scourge afflicting sexually transmitted disease clinics (STD) all over the world. Though patients default in all disciplines where follow-up schedules are involved, the problem is more serious for the venereologist as a high rate of default interferes with an accurate estimate of the therapeutic response, a periodical review of which is essential in the maintenance of the efficacy of the regimen. Further, a percentage of patients acquire more than one sexually transmitted diseases which may be detected only during the follow-up period.

A recognition of the problem of default has led to the use of single dose regimens in the treatment in both syphilis and gonorrhoea. Measures to reduce default are desirable since, the lower the default rate, the more valid the conclusions arising from any assessment of treatment.

Factors influencing default are diverse and may include misunderstandings between the patients and staff, mishandling, painful examination, difficult access to and unsuitable hours of work at the clinic, poorly organized over-crowded clinics, the patients' occupation which involve frequent moving as for example in the case of truck drivers. Patients with past history of defaulting tend to be high risk defaulters.

Mahoney et al[1] have argued for the use of the word "defaulter" in preference to "patient drop-out". Blackwell[2] uses the terms 'patient compliance' and 'patient adherence' in relation to treatment schedules rather than routine 'follow-up attendances' in reference to psychiatric patients.

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Mahoney et al[1] attempted to define a 'defaulter' for the puposes of their study as a patient who was judged to have failed of his or her own volition to complete the period of supervision, (usually three months) recommended by the doctor at the first visit.

Material and Methods

One hundred and seventy two consecutive patients registered in the male clinic of the STD Training and Demonstration Centre, Safdarjang Hospital, New Delhi-9 during the period January to June 1981 and diagnosed as having gonococcal urethritis on the basis of identification of Gram-negative intracellular diplococci in smears of urethral discharge at the time of the first visit were selected for the study. Randomly selected patients were interviewed and educated by the health worker.

During this interview with the health worker, the knowledge of the patient with regard to the disease was assessed. At the same time aspects such as the causation, transmission, complications and preventive aspects of the disease were discussed with the patient as well as the necessity and function of follow-up visits.

The remaining patients were verbally directed to attend for follow-up on specified dates by the attending physician.

At the initial visit, a smear of the urethral discharge stained by Gram's method was examined microscopically for the presence of intracellular, Gram-negative diplococci and a presumptive diagnosis of gonorrhoea was made on the basis of positive smears. Further, the first 3-4 ml. of urine was collected in a test-tube and centrifuged. The sediment thus formed was examined as a wet film preparation for *Trichomonas vaginalis* (T. vaginalis) and after Gram's staining of a dried smear for gonococci.

The patients were then instructed to report to the clinic on the 3rd, 7th, 14th and 28th days of the completion of treatment holding urine overnight (8 hours). At each follow-up visit the patient was examined for the presence of discharge which, if present, was examined by Gram's staining of a smear for gonococci and by direct microscopic examination of a wet film preparation for *T. vaginalis*. If discharge was absent, the first 3-4 ml. of urine was centrifuged and the sediment examined as above.

A prostatic massage was performed on the 3rd or 4th follow-up visit, if no urethral discharge was present, with the patient holding urine overnight. The prostatic fluid and the sediment of the initial urine passed after the massage were examined similarly.

The period of follow-up was reduced to one month for the purposes of this study as a longer follow-up entails a greater drop-out rate. However, a serological test for syphilis was repeated at the end of three months, whenever possible.

A patient was considered to have completed the follow-up schedule (i.e., not defaulted) if he had attended for all the four follow-up visits, or had at least attended the clinic in the third week during which a prostatic fluid specimen was obtained for examination.

Statistical analysis

Tests of significance were performed using the X^2 method.

Results

Default

The overall rate of default is presented in Table 1. 39 (22.7%) of the 172

patients failed to attend for any follow-up visit after treatment. Though only 43 patients attended for the fourth follow-up visit, prostatic fluid examination could be performed in a further twelve patients at the third follow-up visit. Thus 55 patients were deemed to have had a satisfactory completion of the schedule.

TABLE 1
Cumulative rate of default after each visit

	Initial visit	Follow-up visit		
		1	2	3
No. of patients	39	79	110	129
Percentage	22.7	45.9	64	75

Age

The largest number of patients were in the 21 to 25 year age group (86/172) (Table 2). Though the highest rates of default are seen in the under 21 (74%) and 36-40 year age groups (75%) the differences were not statistically significant.

TABLE 2
Default in relation to age

Age group (in years)	No. defaulted before 3rd follow-up	No. of patients	Percentage
Less than 21	23	31	74.2
21-25	59	86	68.6
26-30	16	25	64.0
31-35	9	16	56.3
36-40	6	8	75.0
above 40	4	6	66.7
Total	117	172	68.0

Marital Status

Of the 172 patients, 95 were single and 75 married. The remaining two were a widower, a divorcee, both of whom defaulted (Table 3). The differrences in default among the single and married groups were not statistically significant.

TABLE 3
Default among 172 patients in relation to marital status

	No. defaulted	No. of patients	Percentage
Single	66	95	69.5
Married	49	75	65.3
Widowers/ divorcees	2	2	
Total	117	172	68.0

Education

Of the 172 patients, 49 had graduate or postgraduate qualifications and 14 were illiterate (Table 4).

TABLE 4
Education & default – the effect of health education

Educational standard	Health education	Default	Total	%
Bachelors or Technical degree	given	17	23	74
	not given	10	21	48
Illiterate	given	7	7	100
	not given	4	7	57

A comparison of default among the health educated and non-health educated sub-groups of these two categories failed to demonstrate any benefit derived from health education of either the illiterate or the highly educated group.

Occupation

Table 5 presents the occupation of the patients classified in accordance with scale proposed by Perfrement and Overfield[8]. The majority (56.45) were manual workers. Students formed a relatively small group in our study.

Repeaters

There were 67 repeaters in the study group. Of these, 37 had been registered at this clinic earlier with documented STDs and 30 gave a history suggestive of STD treated at other clinics or

TABLE 5

Occupational classification of the 172 patients

Occupational Class	No. of patients
High professional	4
Low professional	20
Clerical workers	31
Manual labourers	97
Students	12
Unemployed	8
Total	172

by private practitioners. 51 (76%) of the 67 repeaters defaulted. This, however, was not significant statistically when compared to the rate of default for the total group.

Health Education

109 of the patients were given health education of whom 72 (66%) defaulted. Of the 63 who did not receive any education, 45 (71.4%) defaulted (Table 6). The difference is not statistically significant.

TABLE 6

The effect of health education on default

Health education	Defaulted	Total No. of patients	%
Given	72	109	66
Not given	45	63	71
Total	117	172	68

Concomitant disease

36 of the 172 patients had other concomitant STDs (Table 7). Follow-up was completed by 29 of these. The deterrent effect of the detection or the presence of a concomitant disease on default is statistically significant ($p < 0.001$).

Discussion

All patients in this study were heterosexuals. Statistical analysis of the data showed that default was not significantly associated with age, marital status or education Repeaters were not particularly more prone to default than non-repeaters.

TABLE 7

Diagnosis in patients with concomitant diseases

	Frequency of diagnosis	Percentage of total (172 patients)
Trichomoniasis	25	14.5
Chancroid	7	4.1
Genital wart	4	2.3
Post-gonococcal urethritis	1	0.6
Scabies	1	0.6
Balanoposthitis	1	0.6

NOTE: 36 patients had concomitant infection;
3 had more than one concomitant disease.

In contrast to the observations of both Mahoney et al[1] and Goodrich[4], health education did not influence the default rate in our patients. Our study, however, confirms the finding of Goodrich[4] that persistence of symptoms tended to prevent default.

The presence or detection of a concomitant disease may be related to default in three ways :

i) Patients with symptoms are less likely to default.

ii) Concomitant STDs are more likely to be detected in patients who do not default.

iii) Concomitant diseases require longer treatment which has a case holding effect.

An interesting feature of our study is the high incidence of trichomoniasis (14.5%) detected during follow-up. Ranganathan and Balasubramaniam[5] and Sowmini et al[6] did not report the detection of any case of trichomoniasis

during the one month follow-up period in their studies of 55 and 49 male cases of gonorrhoea respectively in his gigantic study of 896 males with gonorrhoea reported only 8 cases of trichomoniasis (0.9%). Bhargava et al[8] have previously commented upon the high incidence of trichomoniasis (7%) among 302 males with gonorrhoea reported from this centre.

The mode of detection of trichomoniasis is shown in Table 8. It is suggested that a thorough follow-up test schedule as discussed earlier be adopted so that these cases are not missed.

TABLE 8
Mode of detection of trichomoniasis in 25 cases :

Wet film preparation of	No. of cases detected
Urethral secretion	4
Urinary sediment (Random)	4
Urinary sediment (8 hr. holding)	6
Prostatic fluid	10
Urinary sediment (after prostatic massage)	1
Total	25

Though the value of health education in the prevention of communicable diseases cannot be denied, its role in reducing default among patients with sexually transmitted disease is debatable.

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