

Attitudes of medical students to HIV and AIDS

J K Evans, J S Bingham, K Pratt, C A Carne

Abstract

Objective—To assess the knowledge and attitudes of medical students to HIV/AIDS and whether attitudes correlate with knowledge and clinical experience. To determine if students felt adequately prepared to deal with medical and psychological aspects of HIV/AIDS.

Subjects and Methods—The subjects consisted of 190 London and 99 Cambridge medical students at the end of their genitourinary medicine attachment, plus 230 Cambridge medical students at the end of their second pre-clinical year. Between March 1991 and February 1992 all were asked to complete an anonymous questionnaire, covering factual knowledge and attitudes towards HIV/AIDS.

Main results—Cambridge genitourinary medicine students, despite spending less time studying HIV infection than their London counterparts gave more correct answers to the factual questions, although this difference did not reach significance (52.4% vs. 47.5%, $p = 0.14$). One third of students believed that many health care workers were at high risk of acquiring HIV at work and one fifth thought doctors should have the right to refuse to treat people with HIV. Fourteen percent of Cambridge genitourinary medicine students indicated that most British people with HIV have only themselves to blame, by comparison with 4% of London students ($p = 0.003$). Thirty-nine per cent of Cambridge genitourinary medicine students expressed reluctance to care for someone with AIDS by comparison with 10% of London students ($p = 0.0001$).

Conclusions—It is important that medical educators convey accurate information about HIV, including the actual risks posed by occupational exposure and try to ensure that medical students spend sufficient time seeing patients with HIV/AIDS during their training.

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Introduction

As the number of patients with HIV and AIDS increases greater demands will be placed on health care professionals in all branches of medicine to provide competent care.¹ The knowledge and attitudes of health

care workers to HIV and AIDS will ultimately affect the quality of service provided and so it is imperative that physicians are well trained to deal with this expanding epidemic.

There is evidence that many general practitioners (GPs), lacking knowledge about HIV/AIDS, feel unable to offer counselling and advice and are reluctant to care for some patients with HIV.²⁻⁵ One study has demonstrated that more recently qualified doctors are likely to have better knowledge of HIV and less hostile attitudes.⁶ Hitherto, however, no formal evaluation has been conducted on the extent to which medical training might influence attitudes and prepare students to manage patients with HIV/AIDS in their future careers.

The aim of this study was to assess the knowledge and attitudes of medical students to HIV/AIDS. In addition we examined whether attitudes correlate with knowledge and clinical experience of HIV/AIDS. Finally we aimed to determine if students felt adequately prepared to deal with medical and psychological aspects of HIV infection.

Subjects and methods

The subjects consisted of three groups of medical students:-

Group (1): 190 London, second year clinical medical students at the end of their genitourinary medicine attachment.

Group (2): 99 Cambridge, second year clinical medical students at the end of their genitourinary medicine attachment.

Group (3): 230 Cambridge medical students at the end of their second pre-clinical year.

Between March 1991 and February 1992 all were asked to complete an anonymous questionnaire. The questionnaire had three parts. In the first, participants were asked how much time they had spent studying HIV infection and also to answer four factual questions covering the prevalence, transmission and natural history of HIV. Those students who gave correct answers to three or more of the factual questions were regarded as a fourth group and their responses analysed separately.

The second part of the questionnaire canvassed opinions on the advisability of pre-test counselling and whether HIV testing should be offered routinely in a variety of clinical settings. Participants were also asked if they agreed with statements about HIV testing, HIV positive people and doctors treating

Department of
Genitourinary
Medicine, Middlesex
Hospital, London,
WC1 8AA
J K Evans
J S Bingham

Department of
Genitourinary
Medicine,
Addenbrooke's
Hospital, Cambridge,
CB2 2QQ
K Pratt
C A Carne

Correspondence to:
Dr J K Evans, Ambrose
King Centre, Royal London
Hospital, Whitechapel,
London, E1 1BB UK

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Table 1 Medical students responses to factual questions about HIV/AIDS

		Responses (%)		
		Group 1 n = 170 (%)	Group 2 n = 84 (%)	Group 3 n = 193 (%)
How many people in the UK are thought to be infected with HIV	<10 000	25 (15)	6 (7)	19 (10)
	10-100 000	93 (55)	50 (59)	102 (53)
	>100 000	42 (25)	21 (25)	33 (17)
The median latent period between HIV infection and the development of AIDS is thought to be	<5 years	17 (10)	4 (5)	31 (16)
	5-8 years	78 (46)	50 (59)	133 (69)
	9-13 years	73 (43)	29 (34)	17 (9)
The perinatal transmission rate from mother to baby of HIV is thought to be	>13 years	0 (0)	2 (2)	2 (1)
	<10%	14 (8)	13 (16)	6 (3)
	10-35%	88 (52)	45 (54)	14 (7)
The risk of becoming infected with HIV following an injury by an HIV infected needle is	35-60%	34 (20)	14 (17)	25 (13)
	>60%	14 (8)	3 (4)	62 (32)
	<0.1%	66 (39)	23 (27)	6 (3)
	0.1-1%	68 (40)	53 (63)	15 (8)
	1-10%	15 (9)	3 (4)	29 (15)
	>10%	10 (6)	4 (5)	91 (47)

them. A five point Likert-type scale (agree strongly, agree, uncertain, disagree, disagree strongly) was used; this was subsequently converted to a three point scale because the response frequencies of the extreme categories were small. There was a low non-response rate for these items (0.3%).

Finally, respondents were asked if they felt anxious or reluctant to care for someone with AIDS and adequately prepared to cope with the problems of HIV infection.

The analyses reported are based on chi square tests of significance to investigate any differences of opinion between the groups of students.

Results

The overall response rate to the questionnaire was 86% (447/519) and did not differ signifi-

cantly between the three groups (170/190 London students, 84/99 Cambridge genitourinary medicine students and 193/230 Cambridge preclinical students).

London genitourinary medicine students spent significantly more time studying HIV infection than Cambridge genitourinary medicine students (56% reported over 10 hours study vs. 31% Cambridge genitourinary medicine students, $p = 0.0013$). Only 2% pre-clinical students reported studying HIV for over ten hours. Genitourinary medicine students gave correct answers to the factual questions in 50% of responses whereas pre-clinical students gave fewer correct answers (19%) and consistently overestimated the risks of HIV infection (table 1). Cambridge genitourinary medicine students, despite spending less time studying HIV infection than their London counterparts gave more correct answers to the factual questions, although this difference did not reach statistical significance (52.4% vs. 47.5%, $p = 0.14$).

Sixty percent of participants did not think that routine HIV testing should be offered to all hospital patients and 61% felt it should not be offered routinely by general practitioners. The majority of respondents agreed that HIV antibody testing should be offered routinely in genitourinary medicine clinics (79%) and in antenatal clinics (79%). Fourteen percent of students indicated that compulsory HIV testing of the whole population should be introduced and one third believed there should be routine HIV antibody screening of immigrants. Only 49% of respondents, however, indicated that pre-test counselling prior to HIV antibody testing was advisable in all cases. A further 7% believed it to be advisable with rare exceptions only.

Overall one third of students thought that many health care workers were at high risk of acquiring HIV at work and one fifth believed doctors should have the right to refuse to treat people with HIV (table 2).

Fourteen percent of Cambridge genitourinary medicine students indicated that most British people with HIV have only themselves to blame (table 2), by comparison with 4% of London students ($p = 0.003$). Eleven percent of Cambridge genitourinary medicine students agreed with the statement that intravenous drug users are self destructive and do not deserve expensive treatment for HIV/AIDS, 17% of Cambridge pre-clinical students and 7% of London students agreed. Half of the Cambridge genitourinary medicine students thought that homosexual activity could form part of an acceptable lifestyle whereas three quarters of London students believed this to be true (52% vs. 72%, $p = 0.001$). When asked their views on complementary medicine the majority of respondents agreed it may be useful in HIV infection: 76% of London students, 55% Cambridge genitourinary medicine students ($p = 0.0006$).

Differences of opinion were evident when students were asked if HIV infected individuals knew more about their infection than

Table 2 Attitudes among medical students

	Number (%) in agreement			
	Group 1 n = 170 (%)	Group 2 n = 84 (%)	Group 3 n = 193 (%)	Group 4 n = 78 (%)
Practitioners of orthodox medicine should advise against "alternative" medical treatments	20 (12)	18 (21)	44 (23)	10 (13)
Most doctors know less about HIV infection than the patients who have HIV infection	97 (57)	19 (23)	58 (30)	41 (53)
Most British people with HIV infection have only themselves to blame	7 (4)	12 (14)	33 (17)	4 (5)
Homosexual activity can form part of an acceptable lifestyle	122 (72)	44 (52)	104 (54)	69 (88)
Complementary medicine can be useful for some people with HIV	129 (76)	46 (55)	98 (51)	52 (67)
Compulsory HIV antibody testing of the whole population should be introduced	22 (13)	7 (8)	39 (20)	11 (14)
Many health care workers in the UK are at high risk of acquiring HIV at work	41 (24)	27 (32)	77 (40)	26 (33)
Most GPs have sufficient knowledge to manage HIV patients	17 (13)	8 (9)	23 (12)	7 (9)
Doctors have the right to refuse to treat people with HIV	31 (18)	11 (13)	44 (23)	14 (18)
A surgeon's decision whether or not to operate should be based solely on patient welfare	82 (48)	42 (50)	127 (66)	36 (46)
Most people with HIV in the UK have just been unlucky	53 (31)	22 (26)	56 (29)	26 (33)
IV drug users are self destructive and do not deserve expensive treatment for HIV/AIDS	12 (7)	9 (11)	35 (17)	2 (2)
Placebo controlled trials in HIV infection should no longer be conducted	31 (18)	25 (30)	42 (22)	14 (18)
There should be routine screening of immigrants for HIV	46 (27)	34 (40)	69 (36)	17 (22)

Table 3 Attitudes among medical students to caring for patients with HIV infection.

	Number (%) in agreement			
	Group 1 n = 170(%)	Group 2 n = 84(%)	Group 3 n = 193(%)	Group 4 n = 78(%)
If, as a medical houseman, you had to care for someone with AIDS would you feel				
Not at all anxious	63 (37)	8 (10)	27 (14)	17 (22)
Somewhat anxious	94 (55)	60 (72)	145 (75)	52 (67)
Very anxious	7 (4)	12 (14)	14 (7)	7 (9)
Don't know	7 (4)	3 (4)	8 (4)	2 (2)
If, as a medical houseman you had to care for someone with AIDS would you feel				
Not at all reluctant	143 (84)	44 (52)	108 (56)	60 (77)
Somewhat reluctant	17 (10)	29 (34)	64 (33)	15 (19)
Very reluctant	0 (0)	4 (5)	19 (10)	3 (4)
Don't know	10 (6)	8 (9)	2 (1)	0 (0)
Do you feel adequately prepared to deal with the medical problems of HIV infection?				
Yes	94 (55)	33 (39)	17 (9)	37 (47)
No	36 (21)	36 (43)	131 (68)	28 (36)
Don't know	37 (22)	15 (18)	42 (22)	13 (17)
Do you feel adequately prepared to deal with the Psychosocial problems of HIV?				
Yes	51 (30)	16 (19)	10 (5)	17 (22)
No	71 (42)	47 (56)	143 (74)	39 (50)
Don't know	48 (28)	21 (25)	41 (21)	22 (28)

most doctors (table 2); 57% of London students agreed, only 23% of Cambridge genitourinary medicine students agreed ($p < 0.001$). Two thirds of all respondents thought general practitioners did not have sufficient knowledge to manage HIV positive patients. Cambridge students were more likely to believe that placebo controlled trials in HIV infection should no longer be carried out (30% vs 18%, $p = 0.012$). When asked whether a surgeon's decision to operate should be based solely on the welfare of the patient 48% of clinical students agreed. However, 62% of London students thought that routine testing should be offered prior to surgery, by comparison with 49% of Cambridge genitourinary medicine students ($p = 0.049$).

The responses of Cambridge clinical and preclinical students differed significantly on three items (table 2). Pre-clinical students were more likely to agree with compulsory testing of the whole population (20% vs. 8%, $p = 0.005$). The majority of preclinical students thought testing should be offered routinely prior to surgery (68% vs. 49% Cambridge genitourinary medicine, $p = 0.002$), and that a surgeon's decision to operate should be based solely on the welfare of the patient (66% vs. 50%, $p = 0.013$).

Seventy-eight (17%) of the 447 participants gave correct answers to three or more of the four factual questions. This group comprised 48/170 (28%) London, 25/84 (30%) Cambridge genitourinary medicine and 5/193 (3%) Cambridge preclinical students. These respondents were considered as a fourth group and their opinions differed significantly from the whole on two questions (table 2). They were more likely to agree that people with HIV infection know more about HIV than most doctors (53% vs 40% $p = 0.02$) and that homosexual activity can form part of an acceptable life style (88% vs. 60%, $p < 0.0001$).

Finally, students were asked their attitudes towards treating patients with AIDS (table 3).

Thirty-nine per cent of Cambridge genitourinary medicine students expressed reluctance to care for someone with AIDS by comparison with 10% of London students ($p = 0.0001$). London students were less likely to feel anxious treating a patient with AIDS than Cambridge genitourinary medicine students (59% vs. 86%, $p < 0.0001$). A small majority of London students (55%) felt adequately prepared to cope with the medical problems of HIV; however, most Cambridge students did not (60%). Those respondents who indicated that they would feel very reluctant and very anxious to care for someone with AIDS were more likely to believe that health care workers are at high risk of acquiring HIV at work and that compulsory testing should be introduced for the whole population. Fifty eight percent of all respondents felt inadequately prepared to cope with the psychological problems of HIV infection.

Discussion

This study shows that despite having just completed a genitourinary medicine attachment factual knowledge amongst clinical medical students still appears to be limited. A surprisingly high proportion of students, one third, still believe health care workers to be at high risk of contracting HIV at work. Surveys of medical students in the USA and England have also confirmed that students overestimate the risk of occupational exposure to HIV infection^{7,8} and it would appear that fear of contagion remains pervasive.

There are important differences between the two centres studied with respect to HIV/AIDS. The Middlesex Hospital looks after over eight hundred people with HIV infection; Addenbrooke's cares for about seventy. Students at the Middlesex spend two weeks full time in the genitourinary medicine department, in Cambridge they spend six hours maximum. Middlesex students inevitably see many patients with HIV during their training, Cambridge students may see none at all.

It is of interest, and perhaps somewhat alarming, that a substantial proportion of Cambridge students felt patients with HIV infection were to blame, that some did not deserve treatment and that homosexuality could not form part of an acceptable lifestyle. Previous studies have determined that increased experience of dealing with HIV infected patients leads to more tolerant attitudes towards them^{9,11} and it can only be hoped that this will occur amongst those students questioned. The fact that London students appear more tolerant of people with HIV may reflect their increased exposure to HIV, and perhaps the intrinsic characteristics of individuals applying to study in London.

The study demonstrates that students believe HIV antibody testing should be encouraged only in certain settings, that is in genitourinary medicine clinics but not in GPs' surgeries. Pre-clinical students' greater support for compulsory and pre-operative

HIV antibody testing together with less emphasis on pre-test counselling may reflect their inexperience of working with HIV and little appreciation of ethical and practical difficulties posed by testing. Nevertheless it is disappointing that only a small majority of students felt that pre-test counselling was advisable in all cases with rare exceptions only, contrary to BMA guidelines which state that HIV testing should only take place with fully informed consent of the patient.

It is of some concern that over a third of Cambridge students expressed reluctance to care for a patient with AIDS; however, this finding has arisen in several previous surveys^{10,11} and it has also been shown that reluctance is associated with homophobic attitudes and intolerance of drug users,¹¹ as confirmed by our study. Research has also demonstrated that up to half of the medical students surveyed believe that physicians should have the right to refuse to care for HIV infected people,¹² one fifth of our respondents concurred. In addition nearly half the respondents believed that a surgeon's decision to operate should not be based solely on the welfare of the patient; General Medical Council guidelines state that it is unethical for a doctor to refuse treatment on the ground that a patient suffers from a condition that could expose the doctor to personal risk or to withhold treatment on the basis of a moral judgement. Such reluctance to care for HIV infected individuals as demonstrated in this survey may have negative impact on the quality of care provided. There is conflicting evidence as to whether increased knowledge of HIV leads to increased willingness to deal with HIV infection.^{11,13,14} Nevertheless it is disappointing that our survey shows little difference in the attitudes of pre-clinical and clinical students, and that, even of those students who scored highly on the factual questions, the majority remained anxious about caring for someone with AIDS.

There are obvious limitations to a self administered questionnaire, in that respondents may provide answers they believe to be most appropriate although not of their own

conviction. Attitudes at the teaching hospitals surveyed may not reflect those of medical students at other centres.

It is clear that the majority of medical students in this survey do not feel adequately prepared to deal with medical and psychological problems of HIV. It would be interesting to learn, however, what proportion of students sitting final year examinations would report feeling inadequately prepared to deal with the medical and psychological aspects of being a house officer. Finally, it is important that medical educators redouble their efforts to convey accurate information about HIV, including the actual risks posed by occupational exposure and try to ensure that medical students spend sufficient time seeing patients with HIV/AIDS during their training.

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