

do what we thought, hoped and prayed would be right the thing for you."

For some people and some families a handicap is a challenge that is met by the individual's resolve to overcome and the family's united effort to see he does. For others, who may be equally brave yet in a different way, severe handicap saps away the will to live and such people may become lonely and rudderless in this very competitive world. Only by consultation with the parents are these familial traits likely to be disclosed.

When an operation is considered inadvisable, and arrangements are made for the baby's subsequent care, the consultant should keep in touch with the parents during the child's lifetime. I consider that this was inadequately done in this study.

I am grateful to my colleague Mr. Malcolm Gough for his support and surgical expertise. I also wish to thank the Oxford Regional Hospital Board for its help in promoting research into this condition.

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General Practice Observed

Patients' Attitudes to Medical Students in General Practice

H. J. WRIGHT

British Medical Journal, 1974, 1, 372-376

Summary

259 consecutive adult patients were interviewed regarding their attitudes to the presence of medical students at consultation, at examination, and at home visits. Few patients declared reluctance to discussing physical illness and smoking or drinking problems in the student's presence, but many had appreciable inhibitions about discussing almost every other common component of consultation. Over half of the younger women interviewed would prefer students not to be present at physical or pelvic examination.

Neither age nor social class showed significant association with declared preference, but previous contact with students did not decrease inhibitions among patients. Only 15% of respondents said that they would be more upset by the presence of two students rather than one.

Introduction

The teaching of British undergraduate medical students in the setting of general practice has increased considerably in the past 20 years: in 1969 Harris¹ reviewed in some detail the arrangements for such teaching at 14 of the (then) 26 British medical schools. The situation was further reviewed by Byrne² in 1972, who detailed some of the rapid changes which had occurred in the intervening four years. While the momentum for such change has sometimes arisen in the past from objectives more appropriate to postgraduate training than to undergraduate

education (Wright, 1973³) undoubtedly the next decade will see a considerable further increase and the distinctive contribution of general practice to the student's training will become more clearly formulated.

Such learning must be built on an experience of consultation and patient care. But there are two inherent difficulties: firstly, ideally the student's clerkship should be over an extended period of time; secondly, the presence of a student converts a duo activity into a trio one.

Thus an already complex interaction between patient and doctor⁴ becomes further complicated by the presence of a third party. Because of this, many general-practitioner teachers insist on a one-to-one relationship of student and doctor, and are reluctant to consider the presence of more than one student at consultation. Such teaching is naturally expensive in terms of professional time, of money, and of the number of teachers.

The objectives of the present study were:

(1) To devise a feasible method by which a practitioner could assess the attitude of his patients to the presence of students at consultation.

(2) To define some of these attitudes in my practice.

(3) To define some of the factors influencing these attitudes.

(4) To determine the extent to which patients thought that their attitudes would be modified by the presence of two (rather than one) students.

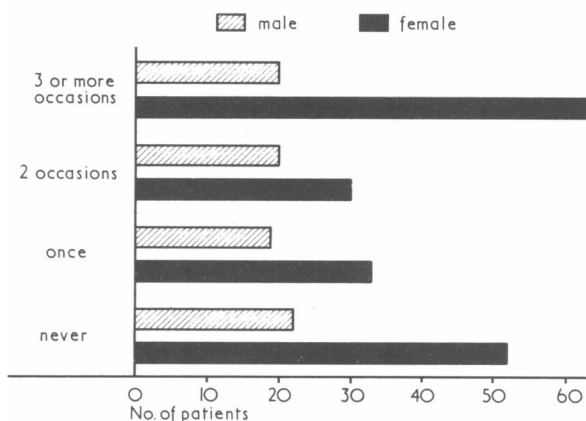
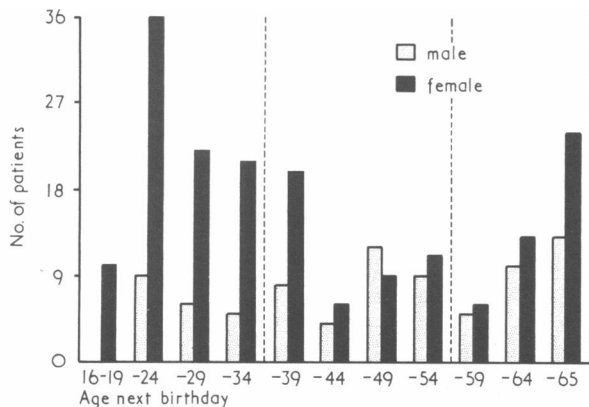
Method

259 consecutive adult British patients were personally interviewed—in the absence of any student—when they attended for consultation. A standardized interview was used, which took 6-7 minutes to complete. The data were then transferred to I.B.M. punch cards and sorted in the usual way. The proportion of patients who declared a preference *not* to discuss, *not* to be examined, or *not* to be visited at home in the presence of a student was then taken as an index of reluctance.

It should be emphasized that the practice in which the study was undertaken has long been recognized by its patients and by intending patients as a teaching practice.

Summary of Findings

The age and sex composition of the sample and their previous experience of students are summarized in figs. 1 and 2.



(1) ASPECTS OF CONSULTATION

General.—While there was little declared reluctance to discuss physical illness and smoking or drinking problems in the presence of a student, almost every other common component of consultation revealed appreciable inhibitions. Thus, if a student were present, 40% of interviewed patients would prefer not to discuss sexual problems; 39% would prefer not to discuss either personal anxieties or family problems; 22% not to discuss money problems; and 18%, work problems.

Men and Women Patients (table I).—In this sample an appreciably greater reluctance was found among women than among men to discuss personal anxieties, family problems, and sexual problems, in the presence of a student. These difficulties are highly significant with the values respectively of $\chi^2=7.8$, $P<.01$; $\chi^2=7.43$, $P<.01$; and $\chi^2=12.15$, $P<.002$. Further, between a quarter and a third of the women of childbearing age would prefer not to discuss contraception, possible pregnancy, and abortion, when a student was present (table II).

Patients' Age. (table II).—An appreciable proportion of younger adults (aged 16-34) would prefer not to discuss—in the presence of a student—their personal anxieties (48%), family problems (48%), work (21%), and money (22%) problems; and 45% would prefer not to discuss their sexual problems.

TABLE I—Patients' Attitudes to Presence of Students at Consultation*

Item	Sex	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Specified
		No.	%			
Physical illness	M.	2	2.5	78	1	0
	F.	6	3.4	170	1	0
Personal anxieties	M.	21	26	60	0	0
	F.	80	45	97	1	0
Family problems	M.	22	27	59	0	0
	F.	78	44	94	3	3
Work problems	M.	10	12.5	68	3	0
	F.	37	21	130	9	2
Money problems	M.	15	9	63	3	0
	F.	43	24	123	10	2
Sexual problems	M.	20	25	56	4	1
	F.	84	47	85	7	2
Smoking problems	M.	2	2.5	73	6	0
	F.	7	3.9	110	55	6
Drinking problems	M.	6	7.5	65	10	0
	F.	12	6.7	86	75	5
Contraception	F.	37	21	77	10	54
Possible pregnancy	F.	40	23	72	14	52
Abortion	F.	38	21.5	32	48	60

*There were 81 male and 178 female patients.

In each of these areas there were, however, no statistically significant differences between the declared preference of the young adults (aged 16-34) and the middle aged (35-54). The elderly appear to be the most tolerant of students' presence.

Social Class (table III).—No significant differences of attitude in either sex towards the presence of students are evident when Social Classes V and VI are compared with Social Classes I, II, and VII.

Previous Contact with Students at Consultation (table IV).—When the study began I thought that patients who had previously encountered students would be less reluctant to consult than those who had not. This hypothesis proved false. In every aspect of consultation considered, the proportion who preferred not to consult with a student present was greater among patients who had previously encountered students than among patients who had not. In the case of men, the differences between those who had previous contact with students, and those who had not, were not statistically significant.

Among women patients, however, the difference relating to the discussion of sexual and money problems was significant ($P<.05$); and the differences relating to family problems and personal anxieties were highly significant ($P<.002$).

(2) ATTITUDES TO EXAMINATION

Patients were asked: "If a student were to be present, would you prefer not to be examined if this involved: (a) taking off some of your clothes; (b) taking off most of your clothes; (c) an internal examination?"

While very few male patients of any age objected to stripping for examination (or to a pelvic examination) in the presence of students, about half the young women interviewed would prefer a student not to be present (table V). Moreover, this feminine reluctance does not decline in any major degree with age, or with previous contact with students (tables VI and VIII).

TABLE V—Attitudes to Examination According to Sex of Patient Interviewed*

Item	Sex	Do Mind		No. who Don't Mind	No. Not Sure	Not Specified
		No.	%			
(a) Taking off some of your clothes	M.	1	1	80	0	0
	F.	9	5	167	1	1
(b) Taking off most of your clothes	M.	3	4	78	0	0
	F.	78	44	98	2	0
(c) An Internal exam.	M.	5	6	63	12	1
	F.	93	52	72	10	3

*There were 81 male and 178 female patients.

TABLE II—Influence of Sex and Age on Patients' Attitudes to Presence of Students at Consultation

Item	Sex	Age 16-34 Years (n = 109—m. = 20, f. = 89)					Age 35-54 Years (n = 79—m. = 33, f. = 46)					Age 55 Years and Over (n = 71—m. = 28, f. = 43)				
		Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.
		No.	%				No.	%				No.	%			
Physical Illness	M.	0		19	1	0	0		33	0	0	2		26	0	0
	F.	2		86	1	0	4		42	0	0	0		43	0	0
Personal	M.	9	48	11	0	0	5	36	28	0	0	7	28	21	0	0
	F.	43		46	0	0	24		21	1	0	13		30	0	0
Family Problems	M.	9	48	11	0	0	6	40	27	0	0	7	27	21	0	0
	F.	43		44	2	0	23		20	1	2	12		30	0	1
Work Problems	M.	3	21	17	0	0	3	18	28	2	0	4	14	23	1	0
	F.	20		63	6	0	11		33	1	1	6		34	2	1
Money Problems	M.	5	22	14	2	0	4	21	28	1	0	6	23	22	0	0
	F.	20		62	7	0	13		31	1	1	10		30	2	1
Sexual Problems	M.	7	45	12	0	1	10	46	23	0	0	3	26	21	4	0
	F.	42		46	1	0	27		18	1	0	15		21	5	2
Smoking Problems	M.	0	3	17	3	0	0	3	32	1	0	2	3	24	2	0
	F.	3		64	20	2	3		27	15	0	3		19	20	3
Drinking Problems	M.	7	8	13	5	0	1	5	30	2	0	3	4	22	3	0
	F.	2		48	32	2	4		21	20	1	1		17	23	2
Contraception Possible	F.	23	26	60	3	3	13	28	17	5	11	1		0	2	40
Pregnancy Abortion	F.	26	29	52	9	2	13	28	20	3	10	1		0	2	40

TABLE III—Influence of Sex and Social Class on Patients' Attitudes to Presence of Students at Consultation

Item	Sex	Classes I, II, VII (n = 47—m. = 15, f. = 32)					Classes III, IV (n = 82—m. = 36, f. = 46)					Classes V, VI (n = 80—m. = 27, f. = 53)				
		Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.
		No.	%				No.	%				No.	%			
Physical Illness	M.	0		15	0	0	2		34	0	0	0		26	1	0
	F.	0	0	32	0	0	0	45	1	0	0	4	5	49	0	0
Personal	M.	5		10	0	0	9		27	0	0	6		21	0	0
	F.	14	40	18	0	0	23		23	0	0	20	33	33	0	0
Family Problems	M.	5		10	0	0	10		26	0	0	6		21	0	0
	F.	13	38	18	1	0	24		21	1	0	20	33	32	0	1
Work Problems	M.	2		12	1	0	6		29	1	0	1		25	1	0
	F.	7	19	24	1	0	10		32	2	2	9	13	42	1	1
Money Problems	M.	3		11	1	0	7		28	1	0	3		23	1	0
	F.	5	17	25	2	0	13		30	3	0	10	16	40	1	2
Sexual Problems	M.	6		8	1	0	9		25	2	0	3		22	2	0
	F.	12	38	19	1	0	22		23	0	1	24	34	25	2	2
Smoking Problems	M.	0		14	1	0	2		32	2	0	0		24	3	0
	F.	0	0	25	6	1	2		39	5	0	3	4	31	17	2
Drinking Problems	M.	2		9	4	0	2		31	3	0	1		23	3	0
	F.	1	6	18	12	1	3		24	18	1	5	8	25	21	2
Contraception Possible	F.	5	11	21	1	5	10	26	1	9	11	11	14	14	5	23
Pregnancy Abortion	F.	9	19	15	5	3	9	24	4	9	11	11	14	17	4	21
	F.	8	17	9	11	4	9	12	14	11	8	8	10	5	16	24

TABLE IV—Influence of Previous Contact with Students on Patients' Attitudes to Presence of Students at Consultation

Item	Sex	Previous Contact (n = 185—m. = 59, f. = 126)					No Previous Contact (n = 74—m. = 22, f. = 52)				
		Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec. or Not Appl.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.
		No.	%				No.	%			
Physical Illness	M.	1		58	0	0	1		20	1	0
	F.	6	3.8	119	1	0	0	5	52	0	0
Personal	M.	16		43	0	0	5		17	0	0
	F.	66	44	59	1	0	14	25	38	0	0
Family Problems	M.	17		42	0	0	5		17	0	0
	F.	67	45	57	1	1	11	21	37	2	2
Work Problems	M.	8		50	1	0	2		18	2	0
	F.	30	20.5	88	7	1	7	12	42	2	0
Money Problems	M.	11		47	1	0	4		16	2	0
	F.	36	25.4	80	8	2	7	15	43	2	0
Sexual Problems	M.	12		44	2	1	8		12	2	1
	F.	66	42	54	4	0	18	35	31	2	0
Smoking Problems	M.	2		53	4	0	0		20	2	0
	F.	6	4.3	77	40	3	1	1	33	15	3
Drinking Problems	M.	6		46	7	0	0		19	3	0
	F.	10	8.5	60	53	3	2	3	26	22	2
Contraception Possible	F.	28	15	54	7	37	9	12	23	3	17
Pregnancy Abortion	F.	29	15.7	53	9	35	11	15	19	5	17
	F.	28	15	24	33	41	10	13	8	15	19

TABLE VI—Attitudes to Examination According to Patients' Sex and Age

Item	Sex	Age 15-34 Years (n = 109—m. = 20, f. = 89)					Age 35-54 Years (n = 79—m. = 33, f. = 46)					Age 55 Years and Over (n = 71—m. = 28, f. = 43)				
		Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.
		No.	%				No.	%				No.	%			
(a)	M.	0	0	20	0	0	0		33	0	0	1		27	0	0
	F.	4	4	83	1	1	3	7	43	0	0	2	5	41	0	0
(b)	M.	1		19	0	0	0		33	0	0	2		26	0	0
	F.	49	55	38	2	0	11	24	35	0	0	18	42	25	0	0
(c)	M.	1		16	3	0	3		27	3	0	2		20	6	0
	F.	54	52	29	5	1	21	46	24	1	0	18	42	19	4	2

TABLE VII—Attitudes to Examination According to Patients' Social Class

Item	Sex	Classes I, II, VII (n = 47—m. = 15, f. = 32)					Classes III, IV (n = 82—m. = 36, f. = 46)					Classes V, VI (n = 80—m. = 27, f. = 53)				
		Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.
		No.	%				No.	%				No.	%			
(a)	M.	0	2	15	0	0	1	35	0	0	0	3	27	0	0	
	F.	1														31
(b)	M.	1	28	14	0	0	1	35	0	0	1	30	26	0	0	
	F.	12														18
(c)	M.	1	37	12	2	0	3	28	5	0	1	35	22	4	0	
	F.	16														12

TABLE VIII—Attitudes to Examination According to Patients' Sex and Previous Contact With Students

Item	Sex	Previous Contact (n = 185—m. = 59, f. = 126)					No previous contact (n = 74—m. = 22, f. = 52)				
		Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec. or Not Appl.	Do Mind		No. who Don't Mind	No. Not Sure	No. Not Spec.
		No.	%				No.	%			
(a)	M.	1	2	58	0	0	0	0	22	0	0
	F.	7	6	117	1	1	2	4	50	0	0
(b)	M.	2	3	57	0	0	1	5	21	0	0
	F.	55	44	70	1	0	23	44	28	1	0
(c)	M.	5	8	48	6	0	0	0	15	6	1
	F.	68	54	51	5	2	25	48	21	5	1

TABLE IX—Attitudes to Home Visits According to Sex of Patient Interviewed*

Sex	Do Mind		Don't Mind		Sometimes Mind	
	No.	%	No.	%	No.	%
M.	4	5	75	93	2	2
F.	10	6	139	78	29	16

*There were 81 male and 178 female patients.

TABLE XIII—Attitudes to Presence of Two Students According to Sex of Patients Interviewed*

Occasion	Sex No.	Do Mind		Don't Mind		Don't Know		No. Not Spec.
		No.	%	No.	%	No.	%	
When Consulting at the Surgery	M.	5	5	76	95	0	0	0
	F.	34	19	139	78	4	2	1
When Visited at Home	M.	5	5	76	95	0	0	0
	F.	33	18	140	79	4	2	1

*There were 81 male and 178 female patients.

TABLE X—Attitudes to Home Visits According to Patients' Sex and Age

Sex	Age 15-35 Years (n = 109—m. = 20, f. = 89)					Age 35-54 Years (n = 79—m. = 33, f. = 46)					Age 55 Years and Over (n = 71—m. = 28, f. = 43)				
	Do Mind		No. who Don't Mind	Sometimes Mind		Do Mind		No. who Don't Mind	Sometimes Mind		Do Mind		No. who Don't Mind	Sometimes Mind	
	No.	%		No.	%	No.	%		No.	%	No.	%		No.	%
M.	1	5	18	1	5	2	6	30	1	3	1	4	27	0	0
F.	4	4.5	66	19	21	3	6	39	4	8	3	7	34	6	14

TABLE XI—Attitudes to Home Visits According to Patients' Social Class

Sex	Classes I, II, VII (n = 47—m. = 15, f. = 32)						Classes III, IV (n = 61—m. = 15, f. = 46)						Classes V, VI (n = 80—m. = 27, f. = 53)					
	Do Mind		Don't Mind		Sometimes Mind		Do Mind		Don't Mind		Sometimes Mind		Do Mind		Don't Mind		Sometimes Mind	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
M.	0	0	15	89	0	11	2	5	34	84	0	11	2	5	25	89	0	6
F.	0		27		5		2		35		9		2		46		5	

TABLE XII—Attitudes to Home Visits According to Patients' Previous Contact with Students

Sex	Previous Contact (n = 185—m. = 59, f. = 126)						No Previous Contact (or Not Sure) (n = 74—m. = 22, f. = 52)					
	Do Mind		Don't Mind		Sometimes Mind		Do Mind		Don't Mind		Sometimes Mind	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
M.	2	6	56	84	1	11	2	4	19	85	1	11
F.	9		97		20		1		44		7	

In this sample no significant differences in the attitudes to examination were detectable between Social Classes I, II, and VII, and Social Classes V and VI.

(3) ATTITUDES TO HOME VISITS (tables IX-XII)

Patients were asked: "Would you prefer a student *not* to be present when the doctor calls?"

Here women qualified their answers much more frequently than men—often expressing the view that there might be some occasions on which they preferred the doctor to visit unaccompanied. The view, however, did not appear to be affected by previous contact with students, nor by age group or social class (tables IX-XII).

(4) ATTITUDES TO THE PRESENCE OF TWO STUDENTS

Thirty nine patients (15%) expressed the view that they would feel more upset by the presence of two students rather than one—either at consultation or at home visit. This view was more common among women than among men (table XIII). This difference is significant at the 5% level ($\chi^2=6.52$; $P<.05$).

Implications

These findings suggest that the presence of undergraduate students in general practice carries important implications. Firstly, the presence of a student may complicate the task of eliciting relevant psychosocial components at consultation. This appears to be particularly so with women. Thus a general practitioner must be alert to this possibility when a student is present. Secondly, the general-practitioner teacher must constantly

monitor the effects that the student's presence is having on his patient—which may be indicated by much non-verbal communication. Certainly, patients will rarely (if ever) directly ask the doctor if they may consult him alone. Thus in this study 185 patients had previously consulted their doctor when a student was present (84 of them on three or more occasions): yet only three (one man, two women) confessed to ever having asked the doctor to see him alone. When a student is introduced, therefore, perhaps the simplest and most effective practice is for the doctor to ask his patients routinely whether they wish to consult him alone. To adopt this routine goes some way towards avoiding the barriers to communication which may otherwise arise.

Thirdly, given this approach, the general-practitioner teacher may well wish to consider having two students present. Educationally, such an arrangement facilitates learning by the interaction it offers between the students themselves. Nevertheless, patients—without exception—responded unfavourably when questioned about their reactions to the presence of more than two students.

This study was generously supported by a grant from the Research Foundation Board of the Royal College of General Practitioners.

Copies of the interview proforma may be had on request from H.J.W.

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Computers in Medicine

Human and Computer-aided Diagnosis of Abdominal Pain: Further Report with Emphasis on Performance of Clinicians

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Summary

This paper reports a controlled trial of human and computer-aided diagnosis in a series of 552 patients with acute abdominal pain. The overall diagnostic accuracy of the computer-aided system was 91.5% and that of the senior

clinician to see each case was 81.2%. However, the clinician's diagnostic performance improved markedly during the period of the trial. The proportion of appendices which perforated before operation fell from 36% to 4% during the trial, and the negative laparotomy rate dropped sharply. After the trial closed in August 1972 these figures reverted towards their pretrial levels.

It is suggested that while computer-aided diagnosis is a valuable direct adjunct to the clinician dealing with the "acute abdomen," he may also benefit in the short-term from the constant feedback he receives and from the disciplines and constraints involved in communicating with the computer.

Introduction

In recent years the concept of computer-aided diagnosis has been the subject of much research and not a little con-

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