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SHORT REPORT

A survey of undergraduate teaching of clinical neurology in the United Kingdom 1990

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Abstract

A comprehensive questionnaire survey of undergraduate teaching of clinical neurology in the United Kingdom has demonstrated the following points. Eight of the 28 medical schools do not provide a clinical attachment for all students. Clinical attachments tend to be either full time for four weeks or part time for six weeks. Students' exposure to sufficient patients with the common neurological conditions, with chronic neurological disability and particularly with acute neurological emergencies, is often deficient. Clinically based teaching, in the ward and clinic, remains highly valued. Neurological teaching tends to fail in schools where the ratio of clinical students to neurology consultants is greater than 28:1.

The prevalence of neurological symptoms, signs, emergencies and disabilities is considerable in either hospital or community medical practice. Doctors' knowledge and clinical skills are as important in neurology therefore as in any other common medical or surgical specialty. In the United Kingdom, each medical school organises its own curriculum for clinical medical students, and a survey in 1979[1] showed considerable unevenness in the teaching of clinical neurology. This short paper reports the state of affairs ten years later. It concentrates upon the teaching which is provided during the second half of the medical students' period of medical education, when the students in the United Kingdom are attending hospitals for their instruction, having already become familiar with the basic neuroscientific disciplines at their university.

Methods

During December 1989, a questionnaire regarding many aspects of the teaching of clinical neurology to medical students was distributed to a neurologist of consultant rank in each of the 28 United Kingdom medical schools. All responded by the end of January 1990.

Results

The results of the survey in the 28 schools are presented in tabulated form.

Discussion

The cornerstone of teaching clinical neurology to undergraduates is an attachment to the department of neurology. There are still two schools in which no medical students have an attachment to the neurological department, and six schools where only a fraction of the students have such an attachment. Twenty of the 28 schools offer attachments to all students, and this is the same state of affairs that existed in 1979. The presence or absence of this crucial platform for teaching strongly relates to the student:teacher ratio. In schools where the ratio was greater than 28:1, clinical attachments were not provided for all students.

The attachment works best when shared with neurosurgery, and not so well when shared with other unrelated specialist subjects. Attachment of the students to the Regional Clinical Neurosciences Unit, where they may receive integrated teaching from neurologists, neurosurgeons, neuroradiologists, clinical neurophysiologists and neuropathologists, is the optimal arrangement. The same conclusion emerged from the survey of 1979.

It is very difficult to teach neurology to clinical students in an attachment of less than four weeks. This fact probably underlies the current failure to achieve the learning objectives of the clinical attachment in a substantial number of schools, even where these objectives are kept under constant review. It takes time for a student to become proficient in the performance of the neurological examination, and to see enough patients with the common neurological conditions, emergencies and disabilities. Even though clinically based teaching, at the bedside and in the outpatient clinic is strongly favoured, and even though overemphasis on lectures is regarded as unsatisfactory, there is still a considerable amount of lecturing to clinical medical students by neurologists.

Clearly there needs to be a sufficient number of consultant neurologists to provide the teaching of neurology to medical students. This survey suggests that when the ratio of clinical student:consultant neurological teacher is greater than 28:1, an adequate and comprehensive teaching provision cannot be given. In the view of the majority, there should be a nominated neurologist in each school with formal responsibility for the students' neurological teaching programme.

It is recognised that this survey is not completely comprehensive. It has concentrated upon the provision of neurological instruction

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	Yes	*No*	*Median*	*Range*
CLINICAL ATTACHMENT—BASIC FACTS				
Is a clinical attachment to the neurology department mandatory for all students?	20	8		
If it is not, what percentage of students do have a clinical neurological attachment?			50	0– 70
Duration of attachment in weeks? full time attachments (n = 11)			4	2– 6
part time attachments (n = 15)			6	2– 12
How many students in the student group attached to the neurological department at any one time?			12	4– 60
How many students in the student group at a typical ward-based teaching session?			8	3– 12
How many students in the student group at a typical outpatient clinic teaching session, (that is in the company of 1 doctor)?			3	1– 10
Is the clinical attachment:				
full-time neurology (that is, all neurology or neurology shared only with neurosurgery?)	11			
shared with other specialist subjects including neurosurgery?	6			
shared with other specialist subjects excluding neurosurgery?	9			
If shared with neurosurgery:				
is the sharing beneficial for the students?	17	0		
why? ability to follow cases through				
plenty of cases with excellent physical signs				
exposure to emergencies				
what percentage is neurology?			70	50– 90
If shared with other subjects:				
is the sharing beneficial for the students?	5	10		
why? students disappear all the time				
neurology is not the main focus				
what percentage is neurology?			40	10– 80
CLINICAL ATTACHMENT—LEARNING OBJECTIVES				
During the attachment, does each student:				
learn the technique of neurological examination from a neurologist?	26	0		
practise his technique of neurological examination on enough patients?	20	6		
receive a list, or other direct guidance, of the common neurological diseases with which he should become familiar?	16	10		
have adequate exposure to inpatients and outpatients to see examples of the common neurological diseases?	16	10		
receive a list, or other direct guidance, of the acute neurological emergencies with which he should become familiar?	9	17		
have adequate exposure to patients with acute neurological emergencies?	9	17		
have adequate exposure to patients with chronic neurological disability?	16	10		
have the opportunity of being introduced to the concept of team management of patients with chronic neurological disability?	14	12		
LECTURES GIVEN BY NEUROLOGISTS TO CLINICAL STUDENTS				
Introductory				
do they occur?	22	6		
how many?				
to whole class at once?	(Yes)		2	1– 6
Comprehensive course of lectures on the common neurological conditions				
do they occur?	19	9		
how many?	(Nearly			
to whole class at once?	always)		14	3– 27
Revision				
do they occur?				
how many?	14	14		
to whole class at once?	(Nearly			
	always)		4	2– 10
LARGE-SCALE PATIENT-DEMONSTRATIONS GIVEN BY NEUROLOGISTS TO CLINICAL STUDENTS				
That is, a neurologist demonstrating one or more patients to a group of 20 or more clinical students.				
do they occur?	13	15		
how many per year?			20	2– 50
number of students attending?			40	20–100
NB—These sessions are common in schools without an obligatory neurological attachment for all students.				

NEUROLOGICAL TEACHING—BEST AND WORST FEATURES

Please mention any strong features of the teaching in your school

	Number of mentions
Clinically based, bedside and OPD, teaching	13
Wide variety of cases, acute and chronic	6
Joint attachment with neurosurgery	4
Clinical attachment is at the regional unit so the teaching is integrated	3
Six to eight week attachment gives students a chance to see examples of most conditions	4
Interest of teachers	4
Consultants heavily involved in the teaching	3

Please mention any problems with the teaching in your school

	Number of mentions
Lack of clinical attachment for all/any students	7
Two to three week's attachment is too short	7
Insufficient teachers	6
Too much emphasis on lectures, not enough "hands on"	4
Clinical attachment shared with unrelated subjects	3
Geographical separation of teaching from regional unit	3
No teaching of neurological emergencies	3
Not enough room in OPD for teaching	3

MANPOWER (median results for the 28 United Kingdom medical schools)				
Number of Clinical Students per year			130	96–250
Number of National Health Service consultant neurologists associated with the medical school who are actively involved in neurology teaching			4	1– 8
Number of academic consultant neurologists in the medical school involved in neurology teaching			1	0– 4
Clinical student: consultant teacher ratio (130:5)			26:1	
Is there consultant neurological input into the planning of the clinical curriculum?	22	6		
Is there a particular consultant neurologist (National Health Service or Academic) with formal responsibility for the students' neurological teaching programme?	17	11		
If yes, is he National Health Service or Academic? NHS 6 Academic 11				
If no, should there be?	6	3		
	(Don't know 2)			

If all clinical students had a four week full time neurological clinical attachment, are there sufficient neurological consultants to support the teaching programme?

yes	7
just about	10
no	8
nowhere near	3

			Yes	No	Median	Range
Average student: teacher ratios in relation to the above question						
yes	n = 7	ratio 20:1				
just about	n = 10	ratio 27:1				
no	n = 8	ratio 38:1				
nowhere near	n = 3	ratio 54:1				
Average student: teacher ratios in relation to the type of clinical neurological attachment which exists at the moment						
full time attachment for all students	(n = 11)	ratio 26:1				
part time attachment for all students	(n = 9)	ratio 28:1				
part time attachment for some students only	(n = 6)	ratio 44:1				
no attachment at all	(n = 2)	ratio 48:1				

by consultant staff in the neurological specialties at the teaching hospitals. Teaching of neurology by junior staff, by staff in other specialties (for example, general medicine), and by neurologists away from the main teaching sites has not been included. The compliance of the questionnaire respondents was always kept in mind, and the need for a 100% response rate made it important that the questionnaire was relatively short, concise and easy to complete. Furthermore, the survey has only collected information on the nature and amount of neurological instruction of clinical medical students in the United Kingdom, and has not examined its quality. Direct approach to the students, and a rather complex assessment of neurological knowledge and skills five or 10 years after registration, would be necessary to ascertain the short and long term effects of any individual neurological teaching programme.

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1 Wilkinson IMS, Rogers J, Wakeford R. Neurology teaching in UK medical schools. *Medical Teacher* 1979;1:87–92.