The neurological content of general practice

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SUMMARY Of examined patients in medical practice in this study 12.3% presented with neurological disease or health problems involving neurological questions or approach. In acute cases neurological problems (15.5%), occurred more often than in chronic ones. This high neurological workload in general practice has to be taken seriously into consideration in undergraduate and postgraduate medical training.

There has been much discussion and debate on the role of neurology and the proper number and type of neurologists in medical practice.¹⁻⁸ The need to learn more about the neurological content of different aspects of internal medical practice has often been stressed.

We present a study which tries to explore prospectively the ratio of neurological diseases or health problems posing neurologic questions, in chronic and acute medical cases.

Material and methods

We used three different sources of patient: (a) National rural health offices or centres (NRHO, NRHC) in Achaia district of Peloponese and (b) urban health centres of Institute of Social Security (UHCIS) in the city of Patras, mainly for chronic medical cases, and (c) the emergency out patient medical department (EOPMD) of a district general hospital (Agios Andreas, Patras) for acute cases.

We asked physicians in NRHO, NRHC and UHCIS to complete a protocol with the age, sex, and health problem(s), for every consecutively examined patient. In NRHO-NRHC physicians work after graduation without postgraduate training in specialties; in UHCIS the staff are generalists-internists, while in Agios Andreas Hospital they are internists included neurologists. The study period was 8 weeks for NRHO-NRHC (March-April 1987) 8 weeks for UHCIS

(May-June 1987) and 3 months for EOPMD (February, June, October 1986).

We received completed protocol forms from 9 NRHO, (between 41), 1 NRHC (between 3) with 4107 examined persons, and from 12 UHCIS doctors, (between 45) with 7859 examined.

One of us (T E trainee neurologist) working in Agios Andreas Hospital EOPMD, completed the same protocol from the official emergency out patient medical department records for 6055 consecutively examined patients during the study period.

The first source of cases included children and adults while the second and third only adults. As in other surveys terminology varied between reporting physicians; under the column "health problem" there were complaints, symptoms, syndromes or diseases. Some symptoms such as vertigo low back pain, functional disturbances headache, quite often noticed by the physicians, were not exclusively neurological, but have been considered as "neurological" because they need mainly neurological questions and examination.

Results

Among 18 021 examined persons 12.3% presented with neurological disease or health problems which needed neurological enquiry or approach ("neurological symptoms"). The table shows the percentage of neurological disease or symptoms in rural health centres and offices in urban health centres and in emergency medical out patients departments. In the first two sources of patients, with mainly chronic cases, the percentage was about the same but quite lower in relation to the third source with the acute cases. Headache, vertigo, functional disturbances, epilepsy,

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Table Neurological content of general practice

Source of patients	No examined	Patient with "neurological" symptom or disease	Percentage of patient with neurological symptom or disease
(a) Rural health offices centres	4107	431	10.49%
(b) Urban health centres	7859	860	10.94%
(c) Emergency out patient medical department	6055	933	15.50%
Total	18 021	2224	12.34%

low back pain and sciatica were the most often recorded health problems.

Discussion

Of examined patients in rural and urban primary medical practice in this study 10.7% presented with neurological disease or symptoms which needed a neurological enquiry and approach. In a similar study in Nova Scotia⁹ approximately 10% of cases had presented with symptoms suggesting neurological problems. In Virginia in 1976¹⁰ 7% of examined patients had neurological problems while in a more recent study in 1986¹¹ neurological questions were addressed in 9% of patient visits. In acute adult patients examined in emergency out patient medical departments of this study the percentage of neurological disease or symptoms was higher (15.5%).

Undergraduate medical curriculum planners and determinators those responsible for training of generalist internists must take seriously into account the above remarkable neurological workload of general practice. A short period of training in regional neurological departments (for example 6 months) for internists and generalists might increase their ability to cope with neurological symptoms and problems in their practice. Headache, back pain, vertigo, function disturbances, cerebrovascular accidents, which were the more common neurologic problems in our study

should be the main topics in training programmes for neurology.

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