

Laboratory needs in General Practice

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Introduction

PATIENTS admitted to hospitals are assured of getting thoroughly investigated. The general practitioner too, though mainly a clinician, is expected to do at least some basic investigations on his patients. Sometimes the patient himself demands laboratory confirmation of the clinical diagnosis. Various General Practitioner Associations have expressed the view that the Government charges for laboratory investigations are too high. They have made representations to the Government to get concession rates for laboratory investigations, without success. The alternative suggested, is for general practitioners to start their own co-operative laboratories.

Before starting such General Practitioner laboratories we should look into:

- (1) Whether there is a need for another set of laboratories to supplement existing facilities.
- (2) How many of our patients need laboratory investigations.
- (3) What percentage of our patients are deprived of laboratory facilities because of cost.
- (4) What types of investigations are commonly needed by the patients.

We have not been able to find any figures or statistics on this subject. Most of the arguments on laboratory needs of the general practitioner were based on impressions and opinions. It was to provide a solid base of statistics that we began this study.

Method

This study is based on urban practices in the State of Penang. 13 members of the Penang Chapter of the College of General Practitioners, Malaysia took part in this study. Each doctor collected data from 500 consecutive patients, starting on the same date. The types of investigations were grouped into:

- (1) Haematology and/or Clinical Chemistry.
- (2) Microbiology including Serology.
- (3) X ray and E.C.G.

The need for investigations was judged to be *Essential* or *Desirable*. An *Essential* investigation is one which must be done before one can reach a diagnosis, e.g. sputum for acid-fast bacilli in tuberculosis or an X ray in a fracture. A *Desirable* investigation is one which helps in the management of the patient but which is not necessary to arrive at the diagnosis e.g. Sputum culture in bronchitis, liver function tests in hepatitis or stool culture in gastro-enteritis. The place where investigations

Table I

The Number of Investigations Considered Necessary

Type of Investigation	Number of Investigations	%
Essential	267	37.4
Desirable	447	62.6
Total	714	100

Table II
Types of Investigation

Kind of Investigation	Essential	Desirable	Total	%
Haematology/clinical chemistry	122	216	338	47.3
Microbiology/serology	76	81	157	22.0
X-ray/E.C.G.	69	150	219	30.7
Total	267	447	714	100

were done was recorded. The patients could also have been sent to a hospital for further management. When a patient was judged to require investigations but it was not done, this was classified into (1) patient refusal (2) cannot afford and (3) facilities not available.

Results

The total number of patients seen was 6524 (due to mistakes in numbering, some doctors collected more than 500 cases) of which 3264 were male and 3260 were female.

Table III
Number of Patients who needed Investigation

Number of patients who had investigations	428	65.7%
Number of patients who could not be investigated	223	34.3%
Total patients who needed investigations	651	100%

It must be noted that some patients required more than one category of investigation. Thus there is a difference in the number of investigations done (714) in Tables I and II and the number of patients who needed investigations (651) in Table III. It is seen that 651 of the total patients seen (6524) or 10% needed investigations.

Table IV
Where Investigations Were Done

Where Investigations Done	No. of Patients	% of 651 pts.
1 Own clinic	294	45.2
2 Private laboratory	32	4.9
3 Govt. laboratory	40	6.1
4 Govt. hospital referral	58	8.9
5 Private hospital referral	4	0.6
Total	428	65.7

Discussion

Ten percent of the patients in this series required investigations. Of these 45.2% were investigated in the doctors' own clinics. 11% were investigated in Government or private laboratories. 9.5% were referred to hospitals for further management. The remaining 34.3% did not have investigations done. 28.7% could not afford it. The remainder mainly refused investigations. On looking at these figures we note that two thirds of those who needed investigations were able to get them done through existing facilities. Two thirds of these were done in the doctors' own clinics. Thus, it is seen that most of the clinics were able to investigate their patients in their own clinics or with the help

Table V
Why Investigation Were Not Done

Reason	No. of Patients	% of 651 pts.
6 Patient refusal	29	4.5
7 Cost	187	28.7
8 Facilities not available	7	1.1
Total	223	34.3

of existing facilities. 28.7% of those who needed investigations were unable to afford the cost. This forms 2.9% of the total patients in the series. Thus any new laboratory set-up would have to reduce costs below existing charges if they were to benefit this poorer class of patients.

Conclusion

Laboratory aids were considered necessary in 10% of patients in this series. We feel that the General practitioners taking part in this survey were able to provide sufficient laboratory service (4.5%) in their own clinics. Government and private laboratories have a small (1.1%) but definite place especially for the more complex tests. Another group (0.9%) were referred to hospitals for further management. 2.9% of the patients in this series were deprived of laboratory help because of the

cost. Any cheap, new laboratory set-up for General Practitioners would supplement the general practitioners' own clinic laboratories (4.5%) and be of immediate benefit to this 2.9% of the patients. It would serve from about 2.9% to a maximum of 5.5% of the patients who are now being investigated by Government and private laboratories or are being deprived of any laboratory aid.

Summary

13 General practitioners in Penang made a study to assess the need for laboratory investigations among their patients. 10% of their patients needed laboratory investigations. 4.5% had investigations done in their own doctors' clinics. 2% needed Government or private laboratory aids. 2.9% could not afford laboratory fees.

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