RESEARCH IN GENERAL PRACTICE

By C. BURNS, J.P., M.B., B.Ch., B.A.O.
Ballymoney, Co. Antrim

IN this age of specialisation, if General Practice is to survive as a subject and not to disintegrate and fragment as successive parts are swallowed up by the increasing numbers of specialities, whose fields become narrower and narrower, then it must establish itself on three foundations. That is to say—(a) the practice of good and better general practice; (b) the academic teaching of general practice; (c) research in general practice.

Originally all medical research started in general practice, and it has an honourable history, distinguished by such names as Sydenham, Jenner, Koch, Budd, Withering, Mackinzie, Pickles, and Fry. Today it is acknowledged that 80 per cent. of all illness is seen and dealt with in general practice, and therefore there still remains (and this is frequently overlooked) a large clinical field to be explored. How does one equip oneself for the task ?

Firstly, there is the attitude of mind. As Pasteur wrote: "In the fields of observation chance favours the mind that is prepared." One must develop the enquiring and questioning attitude to all problems. This is best illustrated by the following quotation :

> "I keep six honest serving men,
> They taught me all I know,
> Their names are What, and Why, and When,
> And How, and Where, and Who."
>
> (The Just-so Stories—The Elephant Child)

Research is always worth doing even if the results are negative; even if it is not published. It is a discipline for the mind, and great personal satisfaction can be experienced because of this self-imposed discipline. Each project can be in reality a very good refresher course.

Secondly, as Pinsent (1958) says: "Observe, record, consider, and conclude." These we were taught at medical school, and it is a most important practice to follow. It should be observed with all our cases, because not all research is planned ahead. Some is retrospective, and therefore if our material has not been recorded fully and systematically, then some good and important material may be lost.

Thirdly, one may ask how does one choose a subject ? The subject that is best is ths one that the general practitioner is personally interested in himself. But if there happens to be no particular personal problem, then there are many fields such as :

1. Hereditary defects and diseases.
2. Minor ailments or common complaints, i.e., dyspepsia, migraine, chronic rheumatism, chronic bronchitis.
3. Therapeutics, i.e., old remedies and new drugs.
4. Care of the aged.
5. Stress disease.

6. Progress of disease, i.e., hypertension, cirrhosis of liver, malignant disease, multiple sclerosis.
7. Early stages of disease.
8. Mental disease.
9. Epidemiology.
10. Observation of the normal.

Types of Research

It is important that one should consider the types of research that may be embarked upon. These can be either individual effort, or taking part in a group research programme, and can be either retrospective or prospective. As it is always essential that there should be sufficient material, it is therefore in the more common ailments that individual research takes place, and in the rarer ailments that group research is carried out. Most research in general practice must also be observational rather than experimental, and based on good solid clinical findings rather than on X-ray or laboratory findings.

Pitfalls

In order to carry out successful and useful research, it is very important to know the common pitfalls so that one's contribution may be of the greatest possible interest and value. Some of these, as stated by Kuenssberg (1963) are :

(a) Use of figures in the light of modern statistical requirements—one should read Hill (1961) and consult a statistician before embarking on a scheme to make sure that the scheme satisfies all the requirements.

(b) Measurement in all fields must be clearly and strictly defined, i.e., a condition may be "mild" or "severe"; or the result of treatment may have "cured", "improved", or "not cured" the condition; or hypertension may be taken as systolic reading of over 140 mm. Hg. and/or diatolic of over 100 mm. Hg.; but whatever terms we use or introduce, they must be clearly defined in an unambiguous way.

(c) Accuracy of diagnosis. The definition of the diagnosis must be clearly stated and strictly adhered to.

(d) Use of placebo. The enthusiasm of the doctor might have an influence on the patient which could be difficult to measure.

(e) Wrong or loose use of technical statistical methods can only produce false results and be misleading, i.e., errors in sampling; errors in the interpretation of figures; errors in the use of statistical language.

(f) The general practitioner in isolation is out of touch with the bibliography. This can be overcome by using the nearest medical library (and these are increasing in number); the British Medical Association library; the College library.

(g) Retrospective interpretation can be very tricky if the research has not been well planned.

(h) Bad or loose planning. If the initial planning is not well thought out, then this places the whole subject in jeopardy.

Assistance and Advice

When one is contemplating a research project, where does one turn for legitimate help and assistance? Well, there is now an increasing number of sources of help :

(1) The Research Committee of the College of General Practitioners is always willing to give assistance in planning, and is well informed as to what projects are taking place elsewhere so that overlapping and wasted effort is avoided. Indeed they can encourage the co-operation of one or two doctors who unwittingly may be interested in the same subject. They also plan group research projects and one can add one's name to their Research Register.
(2) The head of the appropriate university department is always willing to give help and advice. They usually welcome this, and this keeps the practitioner in touch with a university, which can be stimulating and satisfying.
(3) The Medical Research Council will give help and advice.
(4) The information resources of most pharmaceutical firms are readily made available to help.
(5) Most hospitals will also assist and co-operate.

In some cases financial aid can be obtained for your project, if needed, from the College of General Practitioners, some Universities, Nuffield Trust, some regional hospital boards, and some pharmaceutical companies.

Ethical Considerations

The ethical side of conducting research in general practice to those of us who take the Hippocratic Oath seriously, can be an inhibiting factor and one that has to be faced and considered seriously. This aspect of research can be more difficult to reconcile in general practice than in hospital practice, where the patients are not known so intimately. Fry (1953) has said that there should be no discomfort; no unnecessary risks; no omission of accepted remedies, and that the general practitioner might have to be a Dr. Jekyll and Mr. Hyde. That is, one must adopt the humble approach to medical research and at the same time maintain the confident appearance towards the patient. It is in conducting research involving the use of placebos that our consciences are most stretched. I consider that where there is no accepted therapeutic agent for the condition, then it is quite legitimate for the placebo to be used to carry out a drug trial.

The Tools of Good Research

These can be written very simply but are of the utmost importance :

(1) Good record keeping. Without this even good general practice does not exist.
(2) Age-Sex Register. This is very easy to set up and to manage.
(3) E-Book.
(4) Some connection with a Medical Library.

Having discussed and reviewed the many aspects of research in general practice, it would be helpful to discuss or set out how one should conduct a piece of research step by step. The plan should be as simple as possible so as to take up as little time as possible. "It should be compatible with the work of a busy G.P." Fry (1953).

(1) Choosing a subject. This can be some problem that one is personally interested in, or one might be invited to take part in a group research.
(2) Read the appropriate literature on the subject for the past ten years. This can be obtained by looking up *Index Medicus* which lists all the papers

published under Disease Titles from 1879-1966. One can also consult *Bibliography of Medical Reviews* started in 1955. These will be found in all good medical reference libraries. Some drug firms will give this service especially if their products are being used in the project.

(3) Plan the project. First of all, set out clearly the proposition; then give a short history of recent advances in this field; the materials to be used and in what manner; and finally how to set out and assess the results.

(4) Consultation. This could be with any of a number of people, e.g., the head of the appropriate department at the local university; the Research Registrar of the College of General Practitioners; a medical statistician; or the medical adviser on research to a drug firm.

(5) Actual research. Having obtained all the legitimate help and advice, now proceed to carry out the experiment, and when this is done, proceed to assess the results. This can be done in consultation with one's advisors.

(6) Write paper. How this should be done depends very much on the type of research and the subject, but in general terms it is a good idea to open with the objects of the exercise stated clearly, and to finish with a clear and concisely written summary. This is most important, because nowadays medical people are inundated with medical literature, and most people read the title, the introduction, and the summary, and only if these arouse interest will they pause to read the full paper. Another important point is that one should keep a sheet of paper convenient when writing, and jot down all references as they are quoted, so that when the paper is finished one has an accurate bibliography. If this is not done at the time, it can be very tedious and troublesome to compile afterwards.

(7) Criticism. In the early days of doing research, one's articles should be submitted to advisors for criticism before sending them to the medical journals. This can save a lot of disappointment, and in any case constructive criticism is always useful.

(8) Acknowledgments. One should always acknowledge generously the people who have given help, and this is done at the end of the paper.

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