A research project as a means for continuing education

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SUMMARY. A project designed to encourage general practitioners to provide care in the earliest phases of coronary heart disease is reported from South Africa. A total of 129 general practitioners were actively involved and over 3,000 practitioners showed interest and attended at least one meeting.

Introduction

Continuing education is defined here as the educational activities of the established practising physician (Rice, 1972). The principle aim of continuing education is to produce men capable of doing new things, i.e., to effect behavioural changes in those who learn (Byrne, 1971). In view of the ever-expanding knowledge of medicine (20,000 articles are written a month) this goal poses a very important problem.

In general practice this problem has been tackled by several educationalists (Rice, 1972; Byrne, 1971; Dokter, 1972). Various methods are used including active participation in the educational processes (laboratory techniques, seminars, or bedside consultations), and didactic methods (lectures, panel discussions, clinical demonstrations, or articles). The single most significant factor determining the success or failure of a continuing education programme is the motivation of the doctors participating (Rice, 1972).

Being taught content and techniques is often unstimulating and newer methods have been employed to engage the practitioners' interest. Also, it must be conceded that little is known about the comparative values of one learning experience as compared to another. There is marked individual variation in the most suitable mode of learning. Furthermore, the needs and wants of the general practitioner must be gauged before embarking on any programme. The teaching must be undertaken by those appreciating the role of the general practitioner. This is often difficult because most of the medical schools are staffed by highly specialised hospital-based doctors who are not acquainted with the knowledge, skills, and attitudes required by the general practitioner. Finally, in any programme of continuing education there must be some method whereby the teachers or organisers can obtain feedback on the success of the methods used and the value of the material presented.

Myocardial infarction

In the past decade there have been major advances in the management of coronary heart disease, particularly in myocardial infarction. As a result of the advent of the intensive coronary care unit the hospital death rate from myocardial infarction has been halved. This saving of life was due to the reversal or prevention of major arrhythmias, particularly ventricular fibrillation (Levenstein, 1971).

Studies of the natural history, however, proved that by far the greatest percentage of deaths from myocardial infarction occur in the prehospital phase of the disease within the first few hours after onset of symptoms. Thus the significantly decreased hospital death rate had very little effect on the total community death rate. Furthermore, it has been assumed that nearly all the deaths in the prehospital phase of myocardial infarction were due to the same arrhythmic mechanism which had been found to be reversible and preventable in the intensive coronary care unit.

In countries where general practitioners are the doctors of first contact and are responsible for primary care, the management of this early phase of myocardial infarction is often their responsibility. As the high death rate from myocardial infarction (40 per cent) has been described as " the greatest therapeutic problem of our era ", it seemed essential that general practitioners be made aware of the new knowledge in this field and be given a rational approach to the management of the early phase.

Aims

With these ideas in mind, a research project (The Cape General-Practitioner Emergency Coronary Care Project) was undertaken in Cape Town, South Africa. The principle aim of the project was to find out if general practitioners would be able to deliver a prompt and effective management approximating to that of a mobile intensive coronary care unit in the early prehospital phase of myocardial infarction. The results of the project are in press. A second aim of the project was to assess the value of a research project as a means of continuing education.

Methods and results

The new knowledge about myocardial infarction as well as an appropriate scheme of management had to be presented to the participants of the project. It was also desirable to reach as many other doctors as possible even though they were not partipants in the project. Several other learning experiences, besides management, were linked to the project. These included the method of administration, dosage, side-effects, and contra-indications of certain drugs, the information required in an emergency referral note, and topics related to the project such as the reading of electrocardiographs.

I was the general practitioner who was the project convener, and I introduced the subject matter and the planning of the project at two meetings in Cape Town. These introductory meetings were attended by 300 doctors. Among these were 129 general practitioners who participated in the project. At these meetings the participants were given folders which contained literature on the subject (including the article, *The Role of the General Practitioner in the Early Management of Myocardial Infarction*, and protocol sheets). Thereafter, newsletters were sent out monthly. These contained progress reports on the project, reviews of pertinent articles on coronary heart diseases and discussion of related topics, e.g., analgesia and atypical angina. As a result of the interest engendered by the project, a course of six lectures on electrocardiographs was arranged. One hundred doctors attended, the majority of whom were participants. Another successful lecture was held on the principles of epidemiology.

As a result of the project, the convener was invited to give talks on various aspects of coronary heart disease in general practice. Lecture topics have included the early management of myocardial infarction, management of hypotension in myocardial infarction, complete home management of myocardial infarction, management of all coronary manifestations of coronary heart disease including the resuscitation of the collapsed patient. So far, 15 meetings (two at congresses) have been held in various towns in South Africa and have been attended by about 3,000 practitioners. An additional 180 doctors applied to be on the newsletter mailing list without canvassing. Some of my lectures were used by the tape recording unit of the College of South Africa for audiovisual study and these tapes have been requested by several individuals and groups.

Finally, at the conclusion of the project, 8,000 cards with the suggested project management set out in brief were printed for doctors. Thus a far greater number of practitioners than were actually involved in the research project received continuing education on the subject under discussion.

Attitudes of participants

At the conclusion of the project, a questionnaire was sent to the participating general practitioners in order to ascertain their attitudes to some questions. Of the 129 of the general practitioners 119 completed their questionnaires fully. All 119 answered in the affirmative to the question, " noting the problem of continuing education in general practice, do you feel a project of this nature serves this purpose? ".

Of the 119 doctors, 116 stated that the new management régime had assisted them in the management of myocardial infarction. As far as the ease of completion of the referral note was concerned, 88 found it either " less " or " about the same trouble as the usual referral note " while 31 found it " more trouble ".

A 116 participants found the monthly newsletter " informative and helpful " while three found it " unnecessary ".

It is also interesting to note that the policy of *immediate* attention for all suspected cases of myocardial infarction " negligibly disrupted " the practices of 85 participants, " slightly disrupted " the practices of 22, and " considerably disrupted " 12 practices.

Finally, 113 of the participants indicated willingness to participate in another project of a similar nature in spite of the considerable effort required from them in the General-Practitioner Emergency Coronary Care Project.

Discussion

A research project like this can offer unique opportunities for continuing education. Not only were educational opportunities provided for the participants, but the interest engendered by the project resulted in 3,000 doctors being involved in continuing education.

The methods that were successfully employed were didactic lectures, newsletters (which were found to be " informative and helpful " by 97 per cent of the participants), as well as the direct method of actually carrying out the suggested management.

The fact that one aspect of coronary heart disease was being investigated lead to interest in related topics including other aspects of heart disease, therapeutics, an adequate emergency referral note, and ECG interpretation.

The fact that the project convenor was a general practitioner, who was aware of the needs and wants of his colleagues, may well have contributed to the success of this project.

The response to the questionnaire showed that the participants thought that a research project was a satisfactory means of promoting continuing education.

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Addendum

Dr J. H. Levenstein is Chairman of the Research Committee of the Faculty of General Practice of the College of Medicine of South Africa.

COMPARISON BETWEEN IBUTEROL HYDROCHLORIDE AND TERBUTALINE IN ASTHMA

The bronchodilating effect, circulatory effects, and subjective side effects of ibuterol hydrochloride, the di-isobutyric acid ester of terbutaline, at two dose levels (2 and 4 mg) were compared with those of 5 mg terbutaline sulphate in a double-blind cross-over study on 12 patients with asthma. Both drugs were given by mouth. The 2 mg dose of ibuterol had the same bronchodilating effect during the first three hours as 5 mg terbutaline.

The 4 mg dose, however, produced a significantly greater increase in the peak expiratory flow rate between the 30th and 120th minutes than terbutaline. No significant changes in heart rate or pulse amplitude were noted, and there was no difference in the incidence of subjective side effects between ibuterol at either dose level and terbutaline.

REFERENCE

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