Patients' knowledge of heart disease in general practice

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SUMMARY. Interviews with 400 consecutive patients attending a general practice sought their knowledge of the signs and symptoms of an acute heart attack, what action they would take for such an event, and their understanding of the predisposing factors contributing to heart disease. The survey revealed poor recognition of the relevant signs and symptoms of an acute heart attack and lack of knowledge of some of the main predisposing factors associated with heart disease.

Introduction

THE effect of active therapy on the mortality and morbidity due to ischaemic heart disease is likely to remain small in the foreseeable future simply because it can be applied only in the later stages of the natural history of the disease. To make any real progress in reducing the impact of ischaemic heart disease much earlier action will have to be taken to retard the pathogenic process. This will mean changing the personal habits and lifestyle of the younger cohorts in our population (Epstein, 1972). Health education will have an important role to play in this primary preventive approach (Royal College of Physicians, 1976), as well as improving the public's appreciation of what constitutes an acute heart attack and the subsequent action which should be taken (Royal College of Physicians, 1975).

Aims

The aim of this study was to ascertain how well members of the public could recognize the signs and symptoms of an acute heart attack and to assess their knowledge of the predisposing factors of ischaemic heart disease. Opinions about the dissemination of health education in relation to heart disease were also obtained.

Method

A total of 400 patients was interviewed by one of us (P.M.) in September 1974 using a semi-closed questionnaire. The validity of the questionnaire was confirmed by checking a random sample of answers to some individual items on the questionnaire against information recorded in the patient's medical record held by the practitioner. All questionnaires were administered by one of us (P.M.). Checks for consistency were made. Interviews were conducted immediately after patients had completed a consultation with their own general practitioner. No home visits were undertaken. No attempt to sample patients was made; each patient aged 16 years and over was interviewed consecutively as the consultation with their general practitioner was completed. If the consultation had been held for a patient under 16 years of age, the interview was held with the accompanying adult. No interviews took place with five patients where a practitioner decided it would be contraindicated because of the patient's presenting illness or other circumstances.

Comparison of the characteristics of the group of 400 patients with those of the population as a whole revealed that the group interviewed was proportionally representative of the population of Scotland aged 16 years and over for age, sex, marital status, and social class. The level of secondary and tertiary education achieved by the group interviewed was closely related to the educational attainments of a much larger sample of the population (OPCS, 1976).

In addition, we sought to establish the personal

experience of those interviewed by asking whether they or any relatives or friends had experienced an acute heart attack, what type and duration of hospital contact they had previously experienced, and the number of general-practitioner consultations attended in the past year.

Results

Signs and symptoms

Table 1 summarizes the information obtained to questions asked about the nature, site, and radiation of pain, and any associated symptoms which might occur in an acute heart attack. Answers to each sign or symptom were not dependent on any patient giving a 'correct' answer to any previous question. The descriptions which were accepted as accurate comment were based on a synopsis of those given in several British textbooks (Somerville, 1968; Baker, 1970; Brigden, 1973; Matthews, 1973; Fleming and Brainbridge, 1974; Julian, 1974; Seward, 1974; Turner and Julian, 1974).

Signs and symptoms of an acute heart attack can vary considerably and the synopsis of comment drawn from these textbooks was constructed to take into account only those signs and symptoms which could usually be expected to be present. A high proportion of those interviewed could describe the site of pain in an acute heart attack. All 19 men and four women who had experienced an acute heart attack themselves made accurate comment. However, less than half the group could not make accurate comment about the nature of the pain. Although 45·7 per cent of the group indicated that pain in an acute heart attack could radiate from its original site in the chest, only 35·5 per cent could make accurate comment about the site of radiation. Similarly, 57·7 per cent of the group said that other symptoms as well as pain could occur in an acute heart attack, but only 47·4 per cent could name at least one of the associated symptoms (Table 1).

The accuracy of these answers increased with age. A higher proportion of women knew about the radiation of acute heart pain than men, but this was compensated for by the latter having more knowledge of the associated signs and symptoms of an acute heart attack. There was no marked difference in the accuracy of comment according to marital status, but there was a social class gradient for all comment except the site of the pain, social classes 1 and 2 showing a much higher proportion of accuracy compared with social classes 4 and 5.

There was not much difference in knowledge of the signs and symptoms of acute heart attack according to the level of educational qualifications which members of the group possessed, although the 14 people with a university degree or equivalent gave a high proportion of accurate comment throughout. There were no medical, dental, or paramedical staff in the group interviewed, but seven members had a nursing qualification, all of whom made accurate comment. People who knew of a close relative or friend who had suffered an acute heart attack (46·0 per cent) or who had actually had an acute heart attack themselves (3·3 per cent) gave more accurate comment about the signs and symptoms. In the case of those with close relatives or friends, being present at the time of the acute heart attack increased the proportion of accurate comment. Nearly half (41·7 per cent) of people interviewed said they had regular consultations with their general practitioner, and the distribution of the number of consultations during the previous year corresponds accurately with the consultation pattern reported in a recent much larger survey (OPCS, 1974).

Regular contact with the general practitioner appeared to increase knowledge of the signs and symptoms of an acute heart attack, although the nature of the underlying disease which was causing the regular contact did not appear to be important. At least one hospital admission had been experienced by 75·3 per cent of the group, 30·9 per cent of these having occurred within the previous two years. Hospital admissions providing the most information about the signs and symptoms of an acute heart attack were those in which the patient had been in an acute medical or coronary care unit. The length of stay or time that had passed since the hospital admission did not seem to influence the comments given.

Response to an acute heart attack

The patients interviewed were asked what action they would take to summon help if someone had an acute

Table 1. Patients' knowledge of the signs and symptoms of an acute heart attack.

	Comment							
	Accurate		Inaccurate		None		Total	
	%	(Number)	%	(Number)	%	(Number)	%	(Number)
Site of the pain	*93.7*	(375)	*3.8*	(15)	*2.5*	(10)	*100.0*	(400)
Associated symptoms	*47.4*	(190)	*9.2*	(37)	*43.4*	(173)	*100.0*	(400)
Nature of the pain	*43.2*	(173)	*34.0*	(136)	*22.8*	(91)	*100.0*	(400)
Radiation of the pain	*35.5*	(142)	*8.9*	(36)	*55.6*	(222)	*100.0*	(400)

heart attack in their presence. A quarter (25·7 per cent) said they would contact the general practitioner, whereas a much higher proportion (63·4 per cent) said they would call an ambulance by telephone (dialling 999). The remaining 10·9 per cent of the group would have taken a variety of actions varying from telephoning the police to going to hospital themselves with the patient. Two per cent did not specify what they would do. People were not asked whether or not they had received any training in first aid. An interesting finding was that the younger age groups interviewed, who had the least insight into the signs and symptoms of an acute heart attack, would be the most decisive once recognition had occurred. Of patients under 25 years of age, 70 per cent said they would dial 999 compared with only 39 per cent of those aged 65 years and over. Men more than women, members of the upper social classes, and those with formal educational qualifications beyond 'O' level grades or their equivalent would recognize an acute heart attack as a medical emergency and dial 999 for an ambulance. There was no trend towards those who had actually had an acute heart attack or had been present when someone else had suffered one being more likely to summon an ambulance.

Considering the setting in which interviews were being conducted, it is surprising that patients who have regular contact with their general practitioner did not show a greater preference to call him under the circumstances. Even more surprising was the fact that 36·2 per cent of those who stated that the hospital admission which had been most informative about heart disease to be an acute medical or coronary care admission would call the general practitioner, compared with 20·4 per cent who said thay had never had a hospital admission. Only 56·5 per cent of the former 'more experienced' group who demonstrated greater insight into the signs and symptoms of an acute heart attack would dial 999 for an ambulance, compared with 69·5 per cent of the group who had never been in hospital. The data cannot explain this finding.

Predisposing factors

Three hundred and seventeen patients (79·2 per cent) interviewed said that some people were more prone to heart disease as a result of the way they lived. Four out of every five who considered that some people were more prone to heart disease could name at least three contributory factors. Table 2 summarizes their knowledge of some of the main predisposing factors of heart disease. This shows a low appreciation of the risks which people take in daily living which could have a bearing on their subsequent chances of having an acute heart attack (Stamler *et al.*, 1966; Epstein, 1967; Kannel *et al.*, 1967; Morris *et al.*, 1973). Leaving aside high blood pressure, only one in seven of the group knew about lack of physical exercise, one in three about obesity, one in five about smoking, and only one in eleven patients had heard of the significance of a high cholesterol diet in heart disease. A large and varied number of additional factors were mentioned; in particular, mental pressure and overwork were thought to be important contributory factors by 36·2 per cent of people. Six per cent considered that a family history of heart disease was important. The older age groups were more knowledgeable about these predisposing factors, although 31 per cent of those aged 65 years and over could not name any individual factors. Sixty-seven per cent of men compared with 59 per cent of women could name at least one factor. Seventy-five of the 77 patients in social classes 1 and 2 said that some people were more prone to heart disease compared with 86 out of 119 persons in social classes 4 and 5. This trend did not continue when naming individual risk factors.

Table 2. Patients' knowledge of predisposing factors of heart disease.

	Factor mentioned			
	Yes		No	
	%	(Number)	%	(Number)
Obesity	*32.2*	(129)	*67.8*	(271)
Smoking	*21.7*	(87)	*78.3*	(313)
Lack of physical exercise	*14.1*	(57)	*85.9*	(343)
High cholesterol diet	*8.6*	(35)	*91.4*	(365)
High blood pressure	*1.7*	(7)	*98.3*	(393)

Those with a longer secondary school education and further professional qualifications up to degree level had a higher level of recognition than those individuals with no qualifications. However, educational level did not appear to influence the ability to name individual predisposing factors, as the group with the lowest level of secondary school education answered as well as the more highly educated groups. This could not be attributed to the fact that a higher proportion of the less well educated group were in the older, more knowledgeable age groups. Twelve of the 17 patients who could name at least three predisposing factors were in the group with no qualifications. The only events experienced which increased knowledge of predisposing factors were an admission (not necessarily due to a heart attack) to an acute medical or coronary care unit during the previous two years. The 13 people interviewed who said they had experienced an acute heart attack had no more or less knowledge of predisposing factors to heart disease than the group as a whole.

Health education

Fourteen per cent of people interviewed had previously spoken to a patient with heart disease about the illness,

usually a close friend or relative. A further 142 (35·5 per cent) of those interviewed said they had obtained information about heart disease from another source, of which television, either alone or combined with reading, provided the single largest group. The subgroups which had obtained information on heart disease were better informed both about the signs and symptoms of an acute heart attack and individual risk factors.

Three hundred and sixty-two (90·5 per cent) of people interviewed thought that the public should be more informed about heart disease. Half expressed a strong personal desire to avoid heart disease, and half felt there was a need for greater knowledge of the correct first aid to administer in an emergency. The highest response for more information on both how to avoid heart attacks and what to do in an emergency came from those in the older age groups who had either been inpatients in a medical ward, or whose close friends or relatives had experienced an acute heart attack. Seventy-five per cent of all those interviewed specified a particular medium which they thought would be most appropriate for providing information about health education. Over half of this group (42 per cent of all patients interviewed) said television would be the most appropriate medium. The reason given for choosing this option was usually that the information would reach a mass audience. In comparison, only a small proportion indicated a preference for information about heart disease to be given by pamphlets, talks, or newspapers. Only 17 people gave personal contact with doctors as their method of choice for providing information about heart disease.

Conclusion

The study has revealed a lack of information about two aspects of heart disease among the group interviewed. Any improvement in mortality from acute myocardial infarction can occur only if public knowledge is sufficiently well developed to recognize the signs and symptoms of an acute heart attack and summon help at an early stage. Evidence suggests that the single largest factor of delay in getting patients with myocardial infarction under surveillance is the inability of the patient or relative to summon help (Armstrong *et al.*, 1972). This may be partly due to a reluctance to face reality, but this survey suggests that it might be a lack of awareness that an acute heart attack has occurred. Only the site of pain in an acute heart attack is well appreciated by the public; less than half the people interviewed could accurately describe the other signs and symptoms.

Given our present inability to completely inhibit the pathological process of atheroma, any major impact on the growing problem of ischaemic heart disease is likely to occur only through a long-term change in the personal habits and lifestyle of the population. The active participation of the public will be an essential prerequisite to bringing about this change, and the data presented from this survey underline how far we have to go to achieve this goal. The lack of public knowledge of the predisposing factors of acute heart disease will have to be corrected before any impact on the primary prevention of ischaemic heart disease can be made. The results of the survey suggest that the public is eager to receive more health education in order to increase early recognition of acute heart attacks and learn how to correct 'at risk' personal habits. The fact that the British public has a large appetite for television (Central Statistical Office, 1975) and the survey group's opinion that this should be the medium of choice to transmit information about heart disease should be of interest to health educators concerned with the problem of ischaemic heart disease.

There are wider implications which will need to be considered before any large-scale campaign to increase the public's knowledge of these two aspects of heart disease is undertaken. For example, increasing the public's insight into the signs and symptoms of acute heart attack, or advising on the right course of action to take when such an event occurs, could have repercussions for the provision and distribution of coronary care resources. Health education directed at increasing public knowledge of the predisposing factors to ischaemic heart disease would have much wider implications, in particular for the food and leisure industries. The question of how and when such health education should be introduced remains unanswered.

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The mythical team

Over the past 20 years health visitors have been brought into closer and closer contact with general practitioners culminating in the invention of the largely mythical 'team' for primary health care, and this has led them to conclude that general practitioners because they have been traditionally trained and motivated, and because of their function in the health service, should be regarded as part of the health repair service.

Some thought has been given to the position of the general practitioner both as an independent contractor and as the unavoidable gateway to all other remedial health services. There is considerable opinion within the Health Visitors' Association in favour of bringing general practitioners into a salaried service in the belief that this would improve their relationship with patients from the patients' point of view and remove much of the irritation which their specially favoured financial and working position inevitably causes to other staff.

The present place of the general practitioner as the unavoidable gateway to all other remedial services is recognized as potentially and actually detrimental to a minority of patients, but unless or until initial diagnosis can be handed over to a patient-operated computer the Association cannot think of a better way of dealing with it. The establishment of better arrangements for patients genuinely and justifiably dissatisfied with the services of their general practitioner is, however, urgently recommended.

If a salaried service of family practitioners could be successfully established, the Association would envisage its administration with that of the district nursing service as the community section of the remedial health service.

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