Are patients in favour of general health screening?

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Summary

In order to determine whether patients are in favour of general health screening, two sex-matched groups of patients of similar age from a general practice were studied; a group of 315 consecutive patients who attended the practice and 93 individuals who had not attended the practice for at least 12 months were studied. Individuals in both groups were provided with a short, anonymous questionnaire about their desire for general health screening. Although roughly equal proportions of the attenders (93%) and non-attenders (88%) indicated that general health screening was a 'good idea', a significantly greater proportion of the attenders (83%) indicated that they would make an appointment and attend the practice for health screening compared to the non-attenders (66%) ($P<0.002$). Similarly, a significantly greater proportion of the attenders (33%) indicated that they would seek general health screening, even if not contacted by their doctor, when compared with the non-attenders (16%) ($P<0.001$). Thus patients in this study were greatly in favour of general health screening. However, patients who attended the general practice infrequently may represent a population who are relatively resistant to health screening.

Introduction

In England it is now mandatory for general practitioners to invite individuals for simple, general health screening[1]. It would be encouraging, from a public health perspective, if patients showed marked interest in health screening. Conversely, it would be intrusive and possibly harmful[2,3] to invite patients who do not wish for such a service. Furthermore, it has been suggested recently[4] that one of the main problems in the implementation of mass screening programmes is the predominance of 'worried well patients'. Another problem may be that patients who do not visit their general practitioners regularly are relatively resistant to invitiations to attend general health checks, even though it is this population that health checks are directed at.

The desire of patients to attend general health screening has not been evaluated. The aim of this study was to determine whether individuals are in favour of general health screening and to compare patients who attend their general practitioner with individuals who have not attended their general practitioner for at least a year.

Methods

Patients

A total of 408 patients from a five-partner practice in suburban Essex were studied. Patients were surveyed from two sex-matched populations, those who attended the practice, the attenders ($n=315$), and those who had not consulted a doctor for at least 12 months, the non-attenders ($n=93$).

Study design

The practice receptionists provided 375 consecutive patients, 125 men and 250 women, who attended the practice with a written questionnaire. The questionnaire took less than 5 min to complete and was answered before the consultation. Completed questionnaires were placed in a brightly coloured box in the waiting area. In addition, 198 individuals, 66 men and 132 women, who had not attended the practice for at least one year were selected at random from practice records. Similar questionnaires were mailed or delivered to them; each with a first class, stamped, self-addressed envelope to facilitate their return.

The questionnaire was anonymous. It contained three sections; the first included questions on demographic characteristics; the second, questions on past medical history and previous attendence to medical practitioners and the third section included the stem; 'if you were sent a letter at home, inviting you to come to this practice for a quick, general check-up - although you felt perfectly well . . .', and included the following three questions;

(1) 'would you think that having a quick, general check-up is a good idea?',
(2) 'would you make an appointment and come to the practice for a quick, general check-up?',
(3) 'even if we did not send you a letter, would you come for a quick, general check-up anyway?'.

The response to each question was indicated by placing a tick in a circle labelled, 'yes', 'no' or 'not sure'.

Statistical analysis

Questionnaires were rejected if demographic or medical details were incomplete, or one of the three questions in the third section was not answered. In the non-attenders group, individuals were excluded if they had consulted a doctor within the previous year. A small number of questionnaires were rejected so that the two groups remained matched for sex.

Ages of patients were compared between patient groups using unpaired '*t*' tests. The social class of each patient was determined using the Registrar General's social class classification[5]. For each of the three questions in the third section of the questionnaire, the number of responses was counted and the percentages of the responses marked 'yes', 'no' or 'not sure' were calculated for each patient group. Comparisons were made between the two groups of patients by calculating the standard error of the difference

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between the percentages and determining a 'P' value using standard statistical tables[6]. Linear regression analysis was used where appropriate. Significance was defined as $P<0.05$.

Results

Of the 375 questionnaires distributed to patients attending the practice, 361 were returned; 46 of these were rejected subsequently because of incomplete responses and in order to maintain the sex ratio within the group. Thus the overall responses rate for the attenders was 315/375 (84%). For the non-attenders, 104/198 questionnaires were returned; 11 of these were rejected subsequently due to incomplete responses and in order to maintain the sex ratio within the group. Thus the overall response rate for the non-attenders was 93/198 (47%).

Overall, the study group comprised of 408 patients of median age 48 years (range 18-88). The social class (SC) profile of the study population included 8% of SC I, 34% SC II, 45% SC III, 10% SC IV and 4% SC V. The median age of the male subjects was 53 years (range 18-84) and of the female subjects, 47 years (range 19-88); this difference was not statistically significant. The attenders group comprised 315 patients (1 : 2, men : women) of median age 48 years (range 18-88); 18% of these patients attended for management of cardiovascular disease, 12% for musculo-skeletal conditions, 12% for ENT/ upper respiratory tract illness and 7% for management of respiratory disease. The non-attenders comprised 93 individuals (1 : 2, men : women) of median age 50 years (range 18-86).

For the study population as a whole, 92% of respondents indicated that general health screening was a 'good idea' and 79% indicated that they would attend general health screening if invited (Table 1). However, only 29% of respondents indicated that they would voluntarily arrange their own health screening if invitations were not sent by the practice. There were no significant differences in responses between male and female subjects (Table 1).

When responses were compared between groups of patients of different age-ranges, similar responses were obtained from all age groups for questions 1 and 2 (Table 2). However, the proportion of subjects who indicated that they would arrange a check-up even if they had not been sent an invitation from the general practitioner, increased with increasing age ($r=0.936$, $P=0.02$) (Table 2).

Comparison of responses between the patient groups defined by attendance to the general practice showed significant differences between the attenders and non-attenders (Table 3). Although roughly equal proportions of the attenders (93%) and non-attenders (88%) indicated that general health screening was a 'good idea', a significantly greater proportion of the attenders (83%) indicated that they would make an

Table 1. Responses to questions regarding attitudes to quick, general health screening in 408 patients

Subject group	Median age	Question 1 'a good idea'			Question 2 'would you make an appointment and come'			Question 3 'come for a check-up anyway'		
		Yes	No	Not sure	Yes	No	Not sure	Yes	No	Not sure
Males (n=136)	53	124 (91%)	6 (4%)	6 (4%)	109 (81%)	15 (11%)	11 (8%)	48 (35%)	62 (46%)	26 (19%)
Females (n=272)	47	251 (93%)	9 (3%)	11 (4%)	212 (79%)	44 (16%)	14 (5%)	70 (26%)	168 (62%)	32 (12%)
Total (n=408)	48	375 (92%)	15 (4%)	17 (4%)	321 (79%)	59 (15%)	25 (6%)	118 (29%)	230 (57%)	58 (14%)

Table 2. Responses to questions regarding attitudes to quick, general health screening in 408 patients divided by age group

Age range (median)	n	Question 1 'a good idea'			Question 2 'would you make an appointment and come'			Question 3 'come for a check-up anyway'		
		Yes	No	Not sure	Yes	No	Not sure	Yes	No	Not sure
18-27 (23)	45	39 (87%)	2 (4%)	4 (9%)	31 (69%)	10 (22%)	4 (9%)	9 (20%)	29 (64%)	7 (16%)
28-37 (32)	65	61 (94%)	1 (2%)	3 (5%)	54 (83%)	6 (9%)	5 (8%)	13 (20%)	39 (61%)	12 (19%)
38-47 (42)	87	82 (95%)	1 (1%)	3 (3%)	69 (79%)	14 (16%)	4 (5%)	22 (25%)	55 (63%)	10 (11%)
48-57 (52)	65	56 (86%)	5 (8%)	4 (6%)	44 (69%)	15 (23%)	5 (8%)	15 (23%)	38 (58%)	12 (18%)
58-67 (63)	69	67 (97%)	1 (1%)	1 (1%)	61 (88%)	4 (6%)	4 (6%)	24 (35%)	35 (51%)	10 (14%)
68-77 (73)	57	52 (91%)	5 (9%)	0 (0%)	44 (80%)	9 (16%)	2 (4%)	25 (44%)	26 (46%)	6 (11%)
78-88 (81)	20	18 (90%)	0 (0%)	2 (10%)	18 (90%)	1 (5%)	1 (5%)	10 (52%)	8 (42%)	1 (5%)

Table 3. Responses to questions regarding attitudes to health checks in attenders and non-attenders to a general practice

Subject Group	Male: female ratio	Median age (range)	Question 1 'a good idea'			Question 2 'would you make an appointment and come'			Question 3 'come for a check-up anyway'		
			Yes	No	Not sure	Yes	No	Not sure	Yes	No	Not sure
Attenders (n=315)	2 : 1	48 (18-88)	293 (93%)	8 (3%)	13 (4%)	260 (83%)	35 (11%)	18 (6%)	103 (33%)	163 (52%)	48 (15%)
Non-attenders (n=93)	2 : 1	50 (18-86)	82 (88%)	7 (8%)	4 (4%)	61 (66%)*	24 (26%)**	7 (8%)	15 (16%)***	67 (73%)***	10 (11%)

Significant differences between attenders and non-attenders; *$P<0.002$; **$P<0.005$; ***$P<0.001$

appointment and attend the general practice for health screening compared to the non-attenders (66%) ($P<0.002$). Similarly, a significantly greater proportion of the attenders, (33%) indicated that they would seek general health screening anyway, even if not contacted by their doctor, compared with non-attenders (16%) ($P<0.001$).

Discussion

The aim of this study was to determine whether individuals are in favour of general health screening. The study was conducted in a single general practice; a group of patients who attended the practice were compared with individuals, registered with the same practice, who had not consulted a doctor for at least 12 months.

There were a number of limitations to this study. First, only a single practice was surveyed and attitudes to health screening may vary from practice-to-practice although the social class profile of this population was comparable to that of the general population; the practice studied was in Woodford in Essex, a residential area with a wide social mix. Furthermore, the design of the study was deliberately simplified so that it may be easily repeated in other dissimilar practices. Another possible limitation was that since less than half of the non-attenders who were sent questionnaires completed them, this group may not have been representative of all non-attenders. However, one might suspect that non-respondents are even less in favour of general health screening than those who responded.

Although there were limitations to the study, there were a number of significant findings. Over 90% of subjects in this study indicated that health screening was a good idea and a large majority of these indicated that they would attend the practice for general health screening. They also indicated that they would not have obtained health screening otherwise. In addition, as age increased, individuals were more likely to arrange their own health screening.

Patients' marked support of health screening may be misfounded. It is often assumed that health screening is, at best, beneficial and, at worst, harmless[2]. First, there is little evidence that general health screening provides significant benefit to health[7-11] and second, health screening may be harmful; it has been shown to be associated with absenteeism from work[3], and distress[2]; although other authors disagree that health screening arouses anxiety[12]. Thus, although the British Government is promoting general health screening[1], it may not be warranted[13]. General practitioners may therefore, 'very easily drown in a tidal wave of inappropriate demand for screening services'[12].

This study also demonstrated that the attitudes of patients who attended the general practice varied significantly from individuals who had not consulted a doctor for at least a year. The non-attenders were less likely to arrange and attend general health screening and to arrange their own health screening if not invited. The British Government directives state that individuals who have not seen a doctor for three years should be invited for general health screening[1]. This study illustrates the difficulty of screening individuals who are not accustomed to consulting their doctors since they may represent a population who are relatively resistant to health screening.

Throughout medical practice in Britain, there has been emphasis in recent years on evaluation of health care. This study demonstrated that regular attenders to a general practice were greatly in favour and that non-attenders were less in favour of general health screening. It is essential to evaluate whether general health screening provides any benefit to health and whether it will reach those at whom it is directed.

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References

1 United Kingdom Department of Health and Social Security. *General Practice in the National Health Service; the 1990 contract.* London: HMSO, 1989
2 Stoate HG. Can health screening damage your health? *J R Coll Gen Pract* 1989;**39**:193-5
3 Haynes R, Sackett D, Taylor D, *et al.* Increased absenteeism from work after detection and labelling of hypertensive patients. *N Engl J Med* 1978;**299**:741-4
4 Fowler G, Mant D. Health checks for adults. *BMJ* 1990;**300**:1318-20
5 Townsend P, ed. *Inequalities in health: the Black report.* London: Penguin, 1982
6 Swinscow TDV. *Statistics at square one,* 3rd edn. London: British Medical Association, 1978

7 Rose G, Tunstall-Pedoe H, Heller R. The UK heart disease prevention project. Incidence and mortality results. *Lancet* 1983;i:1062-5
8 Multiple risk factor intervention trial research group. The multiple risk factor intervention trial. *JAMA* 1982;**248**:1465-77
9 South East London study group. A controlled trial of multiphasic screening in middle age. Results of the south east London screening study. *Int J Epidemiol* 1977;**6**:357-63
10 Cochrane A, Holland W. Validation of screening procedures. *Br Med Bull* 1971;**27**:2-8
11 Morrell D. Screening in general practice. *Health Trends* 1978;**10**:40-2
12 Pill R, Stott N. Invitation to attend a health check in a general practice setting: the views of a cohort of non-attenders. *J R Coll Gen Pract* 1988;**38**:57-60
13 Anonymous. Primary health care. Government's worthy words amid the gloom. *Lancet* 1987;ii:1307-8

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