MEDICAL PRACTICE

Contemporary Themes

Sociomedical Study of Patients over 75 in General Practice

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"Happy the year, the month, that finds alive A worthy man in health at seventy five."—Coleridge to Wordsworth on his 75th birthday.

Summary

In a survey of people of 75 years and over in a general practice situated in the north-west of England a total of 297 patients was examined. Among the many previously unreported medical conditions and social needs were seven unknown malignant conditions, 28 patients with heart failure, five with diabetes, and one with myxoedema. A high incidence of nutritional anaemia was also found. It is concluded that such a survey can detect much hidden illness and disability and that general practice is the right setting for it.

Introduction

Williamson *et al.*,¹ working in Edinburgh, found that many of the needs of old people were unreported, and Leeming and Ross,² in a questionnaire survey carried out in Bolton, found that many old people were unknowingly suffering from anaemia. They also showed that it is at 75 years of age that real physical, mental, and social disability begins. Few surveys, however, have been confined to this particularly "at risk" group, and usually there has been some selection in the choice of patients. It was therefore decided to try to see all patients in our practice aged 75 years and over.

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The aims of the survey were threefold—(1) to assess by examination the medical and psychiatric health of these patients and also to assess their social and financial state, (2) to take blood samples to test for evidence of disease and compare the results with the clinical findings, and (3) to evaluate the role of the general practitioner as a co-ordinator of the team caring for "at risk" groups.

Organization and Method

The practice is in a large Lancashire industrial town with mixed lower-class and middle-class patients. The size of the list is 7,200 and there are three partners and one assistant. There is a full range of ancillary and attached staff and one central surgery. A list of all patients over 75 was obtained from the local executive council and this was checked with practice records to exclude those known to have left the district.

Altogether there were 342 patients on the list who were aged 75 years and over. Each patient was sent a letter giving information about the survey and asking if he or she would co-operate. Forty one refused and four were in hospital and not seen. Of the remaining 297 patients included in the survey 23 required transport and 77 were visited at home.

The high response rate (87%) was probably due to the fact that the survey was in a general practice setting and carried out by doctors whom the patients knew and trusted. The patients were all given appointments and asked to bring a specimen of urine. Transport was provided by a team of volunteers enlisted from the practice using their own cars. The survey took 12 months to complete and on average eight patients were seen weekly. One hour was allocated to each patient, the first half being taken up by the health visitor's interview. This covered such general statistics as age, social class (Registrar General's classification), height, weight, and marital state. Their principal symptoms and the salient features of their medical history and present treatment were noted. An inquiry was made into their social and financial state. A full medical examination then followed together with urine analysis, and 20 ml of blood was

taken. The following estimations were carried out: haemoglobin level, white cell count, erythrocyte sedimentation rate, and calcium, alkaline phosphatase, sugar, protein bound iodine, cholesterol, urea, and total protein and albumin levels.

The abnormalities in each system were recorded and at the end of the examination any conditions previously unknown to the doctors were listed. An attempt was then made to determine the patient's effective health. Finally, action taken as a result of the examination was recorded on an action chart.

Results

The age and sex, marital state, and social class of the patients in the practice are compared with the national figures in Tables I to III. A pronounced drop in numbers occurred after the age of 84 years. In the practice the number of patients in the older age group was greater than the national average. The figures for marital state were close to the national ones apart from the number of single men. The social class structure of the practice was difficult to compare accurately with either the national or the local figures as they are not available for the over 75s. Nevertheless, in the practice there seemed to be a slight shift to social classes I and II among the men and a larger number of women in class III compared with the national figures. The numbers, however, are too small to draw clear conclusions.

TABLE I—Age and Sex Distribution among Practice Patients aged 75 and over compared with Distribution Nationally*

	75-79		80-84		85-89		90-94		≥95	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Practice %	46	39	35	37	13	20	5	3	1	1
National %	57	52	29	31	11	13	2	3.5	0.5	0.5

* National figures taken from 1966 Census.³

TABLE II—Marital State of Practice Patients compared with Distribution Nationally*

	Married		Widowed		Single	
	M.	F.	M.	F.	M.	F.
Practice %	54	19	43	65	3	16
National %	55	19	38	65	7	16

* National figures taken from 1966 Census.³

TABLE III—Social Class Distribution among Practice Patients compared with Distribution Nationally*

		I	II	III	IV	V	Unclassified
Men	Practice % (over 75)	6.3	19.0	41.0	25.3	7.4	1.1
	National % (over 70)	2.8	16.2	34.9	21.9	10.6	13.6
Women	Practice % (over 75)	3.0	21.9	43.6	19.8	8.4	3.6
	National % (over 70)	1.3	29.9	28.0	28.0	9.7	4.0

* National figures for over-70 age group taken from 1966 Census.⁴

DISEASES

Over 450 unreported conditions were noted during the survey but only those thought for one reason or another to be significant are recorded here. Almost every disease needs a separate definition of significance in this context but by and large only those which needed treatment, had a bearing on something else, or were of interest to the survey as a whole were listed. Some were relatively trivial—for example, intertrigo—or there was only one example of others—for example, balanitis.

The medical history of these patients went back so far that often the illnesses suffered in the past were not relevant to the present study. Therefore in the "diseases known before examination" listed in Table IV only those which were currently affecting the patient were included. If a condition which was

known beforehand had become worse and required new treatment at the time of the examination it was included in the unreported conditions. Abnormalities found in each system were also studied, but if they did not directly affect the patient's well being they were not included in Table IV. A review of the system abnormalities will be given elsewhere. Some patients had as many as six unknown conditions, and multiple morbidity was the rule.

Included in the neoplasms "known before" column were all neoplasms which the patients had suffered through their life and were known to the doctor. Most had been successfully treated but it was felt that a history of neoplasm represented

TABLE IV—Disorders found in Survey Population

Diseases	Known Before		Newly Found	
	Men	Women	Men	Women
Neoplasms				
Carcinoma bronchus	1	—	—	1
Carcinoma pancreas	—	1	—	—
Carcinoma stomach	1	—	—	1
Carcinoma chest wall	—	1	—	—
Carcinoma breast	—	6	—	2
Carcinoma bladder	—	—	1	—
Carcinoma kidney	—	1	—	—
Carcinoma rectum	2	2	—	1
Carcinoma anus	1	—	—	—
Carcinoma sigmoid colon	—	1	—	—
Carcinoma cervix	—	2	—	—
Squamous cell carcinoma	—	1	—	—
Carcinoma lip	1	—	—	—
Parotid gland tumour	—	1	—	—
Lymphatic leukaemia	—	—	1	—
Rodent ulcer	3	4	—	—
Benign lipoma	—	—	1	2
Respiratory System				
Pulmonary tuberculosis	1	3	—	—
Respiratory infection	3	5	8	10
Emphysema	—	1	—	—
Asthma (bronchial)	—	2	—	—
Bysinosis	1	—	—	—
Circulatory System				
Arteriosclerotic aortic valvular disease	1	1	13	26
Coronary artery disease	14	11	—	—
Heart failure	6	28	5	23
Intermittent claudication	4	—	1	—
Mitral stenosis	1	1	1	—
Superficial thrombophlebitis	—	—	—	—
Varicose veins and ulcers	2	2	1	3
Hypertension	—	4	—	5
Skin				
Rosacea	—	—	—	1
Intertrigo	—	—	1	—
Psoriasis	—	5	—	2
Dermatitis (non-specific)	—	1	1	1
Digestive System				
Ventral hernia	—	2	2	—
Inguinal hernia	3	1	11	2
Duodenal ulcer	1	1	—	—
Gastritis	—	1	—	1
Rectal prolapse	—	—	2	—
Anal stricture	—	—	1	—
Haemorrhoids	—	—	1	9
Neurological System				
Subacute degeneration of the cord	—	1	—	—
Cerebral thrombosis	5	4	—	1
Parkinson's disease	—	—	1	1
Bell's palsy	—	1	—	—
Skeletal System				
Osteoarthritis	5	50	9	57
Rheumatoid arthritis	1	5	—	1
Pager's disease	1	—	1	—
Osteomyelitis	—	1	—	—
Dupuytren's contracture	—	—	1	1
Hallux valgus	—	—	1	4
Toe-nail deformity	—	—	1	4
Genitourinary System				
Vulvovaginitis	—	—	—	9
Cervical polyp	—	—	—	1
Vaginal prolapse	—	5	—	2
Urethral caruncle	—	—	—	2
Urinary infection	—	1	1	1
Hydrocele	—	—	2	—
Benign prostatic hypertrophy	—	—	12	—
Endocrine System				
Diabetes	3	8	2	3
Myxoedema	—	5	—	1
Special Senses				
Corneal ulcer	—	—	1	—
Cataracts	12	39	2	11
Macular degeneration	—	2	—	3
Congenital nystagmus	1	—	—	—
Retinal haemorrhage	—	—	—	1
Glaucoma	—	7	—	—
Blepharitis	—	—	—	1
Wax in ear	—	—	1	5
Labyrinthine disturbance	1	4	—	—
Deafness	—	1	9	17
Otitis media	—	—	1	—
Otitis externa	—	—	—	1
Mental Disorders				
Depression	1	3	—	2
Anxiety State	—	4	—	9
Senile Dementia	—	4	—	10
Schizophrenia	—	1	—	—

some hazard, and therefore despite the fact that the neoplasm might not be directly affecting the patient at the moment of examination it was included. Respiratory infections included acute bronchitis and acute exacerbations of chronic bronchitis. Heart failure included both right-sided and left-sided ventricular failure and occasionally combinations of both.

URINE

Altogether 272 specimens of urine were tested. Ten showed the presence of glycosuria and six albuminuria. Eleven patients suffered from diabetes mellitus and two of these had glucose in the urine. Of the other eight patients with glycosuria five were found on further investigation to have diabetes mellitus and were treated accordingly. This represented 1.7% of the patients seen. The remaining three patients were found to be normal, and the glycosuria was presumed to be due to low renal threshold and no action was taken. All but one of the patients with albuminuria were women. The one man had a urinary infection.

BLOOD PRESSURE

The mean blood pressure readings found in the various age groups are shown in Table V. The overall value for men was 157/87 mm Hg and for women 162/88 mm Hg. Six men and 13 women had diastolic readings of over 100. The highest diastolic blood pressure recorded for men was 120 and for women 140.

TABLE V—Mean Blood Pressure Readings (in mm Hg) found in the Survey Population

Age	Men		Women	
	Systolic	Diastolic	Systolic	Diastolic
75-79 ..	154	84	164	88
80-84 ..	165	89	163	91
85-89 ..	158	90	155	85
90 and over ..	155	87	167	82

HAEMOGLOBIN

The haemoglobin values, expressed as a percentage (100% = 14.8 g/100 ml), are shown in the Chart. Ten cases of pernicious anaemia were known and one unknown case was found. Nutritional anaemia was diagnosed when the haemoglobin level was

Haemoglobin values (100% = 14.8 g/100 ml) in the study population aged 75 and over.

under 85% in both men and women. From the Chart it can be seen that women tended to have a lower haemoglobin, and the shift is to the left. Altogether 83 cases of nutritional anaemia were found—Williamson¹ used 80% as his dividing line and in 200 patients found 16 cases; by using the same standards in a total of 300 patients we found 44 cases—that is, 8% and 15%. Only three people in this age group were being treated for iron deficiency anaemia in the practice.

EFFECTIVE HEALTH

It was found that despite the presence of disease processes many of these old people were active and enjoying life. A concept of effective health was developed. Three groups were defined—Group 1: normal mobility; able to do cooking, housework, and shopping; cheerful mental state; no incapacitating illness; Group 2: movements restricted, housefast; unable to do shopping; able to do cooking and housework; mental deterioration present but coping; illness present but with which patient can cope. Group 3: bedfast; unable to do cooking, etc.; general restriction of movement; severe mental deterioration; incapacitating illness present.

After careful assessment of each case 177 patients (60%) were put into group 1, 108 (36%) into group 2, and 12 (4%) into group 3.

ACTION TAKEN

At the end of the examination an action chart of recommendations was made (Table VI). Only a quarter of the patients did not need treatment. Many required more than one service. Occasionally a patient was thought to require a service—for example, chiropody—and would refuse to have this arranged. From the point of view of the survey, however, it was still regarded as a positive requirement. Follow up by the doctor could mean either a visit to the surgery or a home visit. Immediate health visitor follow up was necessary 18 times to discuss pressing family problems. Outpatient referrals were mainly to the E.N.T., ophthalmic, and surgical clinics. Sometimes it was thought that outpatient referral was not worth while in view of the many other conditions present. For instance, if a patient had a hernia but was in poor general condition an outpatient visit was regarded as too disturbing and it was decided to follow this up in the practice. Again, if a patient's general function was reasonable it was sometimes thought better not to interfere with conditions which in a younger person may have required more positive treatment. More cases would have been referred for physiotherapy if this had been more readily available. No one was admitted to hospital and only two patients were referred for geriatric opinion.

TABLE VI—Recommendations made after Examination

	No. of Cases		No. of Cases
No treatment	76	Physiotherapy	2
Treatment and surgery follow-up ..	184	Hospital admission	0
Immediate health visitor follow-up ..	18	Dentist	7
Outpatient referral	43	Optician	4
Geriatric referral	2	District nurse	3
Social services	40	X-ray examinations	3
Chiropody	49		

The social services required in 40 cases are detailed in Table VII. The welfare home refers to Part III accommodation and the handicap centre is a day hostel specially for handicapped people.

TABLE VII—Social Services Required in 40 Cases

	No. of Cases		No. of Cases
Rehousing	3	Holiday relief	1
Home help	14	Blind register	3
Luncheon club	3	Handicap centre	1
Welfare home	2	Day centre hospital	1
Meals on Wheels	11	Additional heat	1

Discussion

During the course of the survey a great deal of information was collected about the health of these patients. It has been the intention of this article, however, to give only the basic findings and the action that needed to be taken. The organization worked well and could easily serve as a pattern for other surveys or geriatric screening clinics in general practice. The survey was not too intrusive on the general work of the practice. Most of the patients appreciated the interest shown by the doctors, though a few were apprehensive about what might be found on examination. Some, too, questioned the motives of the exercise but were readily reassured by a full explanation. The high acceptance rate shows that general practice is the correct setting for such screening to take place. Also the various services required can be readily co-ordinated by the team of workers based on a general practice.

Seven unknown malignant conditions were found. The patient with carcinoma of the bronchus died shortly afterwards, as did one of the patients with a breast carcinoma. The patient with carcinoma of the bladder also died. The remainder continued under surveillance. The patient with carcinoma of the rectum refused to be referred for surgical care, and because of the age and general condition of the patients with carcinoma of the stomach and breast it was decided to care for them at home. This illustrates the philosophical dilemma of screening the elderly. It might be said that in finding these neoplasms little could be done about them. This is possibly true, but neoplasms are a special group for which there is no really effective treatment. The vast number of conditions found, however, could be effectively treated, and even if this is impossible life can be made more tolerable if the condition is known to the doctor.

Twenty eight cases of heart failure were found, and often the patients thought that the breathlessness and swollen ankles were an integral part of old age and not susceptible to treatment. Inguinal hernia was a frequent finding in men and haemorrhoids in women. Many cases of osteoarthritis were found which needed treatment. All required simple analgesics, often weight reduction, and, ideally, physiotherapy. Altogether 49 people were referred for chiropody. This was principally for treatment of corns, etc., and was not included in "diseases found." One new case of myxoedema was found and confirmed by serum protein bound iodine and serum cholesterol tests. Two more were thought clinically to be myxoedematous but blood tests failed to confirm this. Mental disorder was almost entirely confined to women.

Five previously unknown diabetics were picked up from urine testing. This is considered to be a worth while procedure in old age. The mean blood pressures were at a reasonable level and there did not seem to be much difference between the sexes. High blood pressure was not a feature of these old people. Anaemia was common and should be recognized and treated. By using the definitions already stated 60% had good effective health but 36% were approaching breakdown and 4% were actually at breakdown point. In a later article it is hoped to go into more detail about where these latter two groups are likely to lie regarding age, sex, social group, etc.

What was the extent of the unknown need? Williamson¹ found 75% with at least one unknown moderate or severe disability. In the present survey the definition of significant unknown disease was whether treatment or some action was needed. On this basis we also found that 75% had some such condition. Some patients required more than one service—for example, chiropody and surgery treatment. On the social side it was found that although some services were necessary these were not always available.

In doing a survey of this kind it is important to involve all the patients of the age group in the practice. People who come readily are often those not in need, whereas the more reluctant ones are often those with the major problems.

When all of the 75 year olds are taken as an at risk group where can the general practitioner help? Many of the conditions could be found only by full clinical examination—for example, heart failure and inguinal hernia—and it was thought that given time every patient over 75 years of age should be examined by a doctor. A subjective note was made about whether the patient really needed an examination. It was felt that in two thirds of the cases this was needed. Most patients can be brought to the surgery with a little organization, and it has been established in the practice that this is the correct place for old people to be seen.

The health visitor can also be of invaluable help. She can search the practice age/sex register for patients over 75 and attempt to keep them under surveillance. She can deal with certain family problems and report back those in effective health groups 2 and 3. If there is a nurse in the practice team the health visitor can arrange for her to test urine and take blood for simple haemoglobin estimation. Finally, she can be very helpful in the follow up of these patients. The local authorities could help by providing more health visitors for this purpose.

Does routine examination influence which group of effective health a patient is in? The general situation can be improved in the 75% requiring treatment and the effective health group of some can be improved. Every patient, however, gained something, even if it was only the psychological effect of being told he was in good health.

From the survey it is concluded, firstly, that all patients over 75 should receive medical examination and regular follow-up; secondly, that follow up should include haematological tests and investigation into social as well as medical requirements—and, thirdly, that local authorities should be encouraged to enlarge their facilities for geriatric social care. Finally, a tribute must be paid to the relatives who look after these patients and to the old people themselves, who came to us voluntarily and were grateful for any help which we were able to give.

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