RHEUMATIC DISEASES AFFECTING MEN REGISTERED AS DISABLED

A PILOT SURVEY

BY

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The concept that a man of working age, who cannot or will not work, is maliciously idle is not generally held nowadays and the work-house is no longer regarded as the only solution to the problems presented by inability to earn a living. It is only comparatively recently, however, that any serious attempt has been made to analyse the causes of disability and premature retirement.

One of the early investigators in this field was Kahlmeter (1923), who analysed the causes of disability in Sweden. In particular, he studied the causes of premature retirement in 5,538 males. He found that rheumatism led to early retirement in 398 cases (7 per cent.) and ranked third to senility and myocarditis as the certified cause of stopping work. At this time, interest in Britain was centred largely on infectious diseases, and the prevention of their spread was regarded as being more important than the problems of unemployment which might be caused by them. Unemployment problems of the able-bodied presented such difficulties during the inter-war years that it was natural that the unemployment of the disabled should take second place.

During the second world war, the possibility of using this potential reservoir of manpower in a productive way changed from being an intellectual exercise to a matter of urgency. The mechanisms which were evolved to satisfy the need in a time of crisis were subsequently adapted to cope with some of the medical and social problems of the post-war era which stemmed from chronic disability. The approach to these problems differed from that adopted before the war for three reasons:

1. The control of acute infectious diseases and tuberculosis had changed the morbidity pattern of the whole population, especially those of working age.

2. There was a strong desire to reabsorb those disabled by war service into industry, and it was appreciated that disabilities caused by military service were not necessarily limited to wounds and loss of limbs. In addition, the population suffering from disabilities attributable to the effects of war was not restricted to those who had served in the armed services.
3. The introduction of the National Insurance Act embracing all sections of the community made it possible to examine the causes of prolonged sickness absence and premature retirement on a national scale.

The Disabled Persons (Employment) Act of 1944 made the Ministry of Labour responsible for providing Disablement Resettlement Officers whose function it is to assist disabled persons to obtain employment. This Act also made it obligatory for any firm with more than twenty employees to accept 3 per cent. disabled persons from the official Disabled Persons Register.

The correlation between disability and unemployment has been suggested by the records of the Ministry of Labour and also by the work of MacPhail and Ferguson (1955) who interviewed 500 men with long spells of unemployment, and showed that 96 per cent. of those interviewed had medical disabilities. The three main causes were old injuries (28 per cent.), nervous disorders including mental retardation (24 per cent.), and chest disorders (22 per cent.). Rheumatic diseases as such were not included in the specified list of disabilities.

A similar study was carried out by Richardson (1956), who interviewed 200 unemployed men aged 30 years and over; he found that 91 (46 per cent.) of those interviewed had disabilities, and that of these 49 (54 per cent.) were registered as disabled persons.

The diagnostic labels applied to those unable to work because of disabilities are difficult to evaluate because of differences in criteria, but Richardson found that eighteen (20 per cent.) out of 91 men with recorded disabilities suffered from either arthritis or "backache", the latter symptom being taken to include degenerative changes of the intervertebral disks.

Kellgren, Lawrence, and Aitken-Swan (1953) had previously shown that the prevalence of rheumatic complaints in males of working age over a period of five years was 31 per cent. Subsequently Duthie and Anderson (1962) found that the complaint rate over a period of one year was as high as 47 per cent., but both groups of observers stressed the importance of age as a factor in determining the prevalence of symptoms.

The present survey is an attempt to ascertain the part played by rheumatic complaints in preventing men of working age from obtaining employment and to find out whether these complaints are the main causes of disability or merely subsidiary ones. It forms part of a more extensive inquiry into the social effects of rheumatic diseases, the broad aims of which have already been described by Anderson, Duthie, and Moody (1962).

Material and Method

A random sample was taken from the list of registered disabled persons in August, 1961. At this time of the year the general unemployment figures tend to be low and it was felt that the sample would contain the hard core of the disabled who had difficulty in obtaining employment. The men lived mainly in the centre, south, and west of Edinburgh, and no type of employment was disproportionately represented in the area. Mining, brewing, and building, however, were industries mentioned frequently by those who were interviewed.

All the men in the sample were seen by an official of the Ministry of Labour who asked for their co-operation in a health survey. They were then interviewed by the almoner who asked for details of age, training, marital and economic status, and the reasons for stopping work and remaining unemployed.

After this social interview, each man was medically examined to determine the main causes of disability. The prevalence of rheumatic symptoms was noted whether these were presented as a cause of disability or not.

The observations reported in this paper refer only to those who were seen by both the almoner and the doctor. The remainder are regarded as having

refused to co-operate; some of these had agreed to take part initially, but failed to attend in spite of repeated requests and appointments.

The social problems discussed in this paper are limited to those related to employment difficulties, and the following definitions are used:

Repeated Unemployment.—A history of more than five spells of unemployment each lasting longer than 3 weeks.

Prolonged Unemployment.—A spell of unemployment at the time of the interview which had lasted more than 2 years.

At the medical examination, rheumatism was defined as persistent or recurring musculo-skeletal pain without a recent history of preceding injury. Subdivision of this broad definition was made by using the following diagnostic criteria:

(1) *Disk Disease.*—Pain in the back or neck, either recurrent or of prolonged duration, which could be accurately localized. In addition, there had to be a history of pain radiating along the distribution of a spinal root at some time though not necessarily with every attack.

(2) *Osteo-arthritis.*—Pain in one or more joints of a limb, which was aggravated by movement. These symptoms were usually supported by clinical evidence of degenerative joint disease with signs of inflammation.

(3) *Rheumatoid Arthritis.*—Three of the six clinical criteria recommended by Ropes, Bennett, Cobb, Jacox, and Jessar (1958).

(4) *Chronic Tenosynovitis.*—Continuous or intermittent pain on movement of a tendon within its sheath or on pressure over the sheath of at least 6 weeks' duration.

(5) *Chronic Bursitis.*—Chronic painful swelling of one of the bursae or a history of continuous or recurrent swelling for more than 6 weeks.

Undetermined rheumatic pain was the term applied to all musculo-skeletal pains which did not fall into one of the above categories, and which could not be attributed to one of the less common rheumatic conditions such as ankylosing spondylitis or gout.

Results

Disability

The original sample contained 102 men, but two of them died before the inquiry started, leaving a total of 100, of whom 76 co-operated fully. The ages and registered disabilities of those who were not seen were supplied by the Ministry of Labour, but for ethical reasons no other information could be obtained. The mean age of the group which refused was 48 years (standard error 3.2), and that of the 76 men who took part was 55.3 years (standard

error 0.99). Those who refused were therefore significantly younger than those who took part.

The registered disabilities of the survey group and of those who refused are shown in Table I. There is no evidence in the Table that there is any difference between the two groups. However, the registered disability was often vague and difficult to categorize and it would be unwise to say with any confidence that the 76 men interviewed were representative of the sample as a whole. Chronic lung disease was the commonest registered disability, and of the 21 men in this category fifteen were classed as chronic bronchitics and the remainder had tuberculosis, asthma, or unspecified lung disorders. One of the rheumatic diseases was the registered cause of disability in nine out of the total sample (eight out of the 76 men interviewed).

TABLE I
CO-OPERATION OF 100 MEN WITH
REGISTERED DISABILITIES
(provided by the Ministry of Labour)

Diagnosis	Co-operation		Total
	Inter-viewed	Refused	
Chronic lung disease	17	4	21
Injuries and deformities of limbs and spine	12	2	14
Cardiovascular disease	11	2	13
Arthritis and disk disease	8	1	9
Chronic internal disease	7	4	11
Organic nervous disease	7	1	8
Functional nervous disease	7	3	10
Other conditions	7	5	12
Unknown	—	2	2
Total	76	24	100

The main cause of disability as stated by the Ministry was not necessarily the only disease contributing to employment difficulties, and in many instances more than one cause of disability was found on medical examination (Table II).

TABLE II
MAIN CAUSES OF DISABILITY FOUND ON EXAMINATION

Diagnosis	No. of Cases	Percentage of Total Examined
Chronic bronchitis	21	27.6
Cardiovascular disease	15	19.7
Rheumatic disease	13	17.1
Old injuries	11	14.5
Mental disorders	10	13.2
Chronic dyspepsia and ulcers	8	10.5
Pulmonary tuberculosis	8	10.5
Blindness	6	7.9
Other disorders	11	14.5
Total number of men examined	76	—

Greater specificity was possible here, but the overall pattern was not changed, as the four most common diagnoses coincided with those used to describe the registered disabilities of the men interviewed. Chronic bronchitis was the commonest diagnosis recorded, being present in 28 per cent. of those interviewed. Rheumatic diseases also played an important part, being a cause of disability in 17 per cent. of the sample.

Besides those in whom rheumatism made an obvious contribution towards their disability, there were some who had histories of rheumatic complaints, either at the time of the examination or previously. The total number of men interviewed who had complained of rheumatic pains at any time during their lives was 56 (74 per cent.); the remaining twenty men (26 per cent.) had never had any rheumatic pains.

This high proportion of men who had had rheumatic symptoms can only be considered in relation to the mean age of the sample, which was 55.3 years (standard error 0.99). By way of comparison, a group of 687 dockyard workers in full employment, aged 45 years and over, was interviewed in connexion with another survey; the mean age of 55.1 years (standard error 0.19) and the complaint rate was 67 per cent. The mean ages of these two groups are thus closely similar and there is no significant difference between the two complaint rates ($p < 0.2$).

Rheumatic Complaints

Causes.—The diagnosis in each case is given in Table III. Rheumatoid arthritis was relatively unimportant numerically, only one case being diagnosed among the 76 men who were examined. Osteo-arthritis, which was present in 23 (30 per

TABLE III
RHEUMATIC CONDITIONS FOUND ON EXAMINATION

Diagnosis		No. of Men	Percentage of Total
Rheumatoid arthritis		1	1.3
Osteo-arthritis		23*†	30.3
Disk disease		13*	17.1
Undetermined pain	Back and neck	10	13.2
	Elsewhere ..	7	9.2
Other specified diagnoses		5†	6.6
No rheumatic complaints		20	26.3
Total Interviewed		76	—

* Two men had osteo-arthritis and disk degeneration.

† One man had osteo-arthritis and chronic tenosynovitis.

cent.) of those interviewed, is known to be commoner in the older people, but even allowing for this there was a high prevalence of this condition among those on the disabled register. Many of these changes were related to deformities following disease or injury.

In considering the rheumatic complaints affecting the axial musculo-skeletal system, a distinction has been drawn in Table III between those with disk disease and those with undetermined pain affecting the back and neck. From the point of view of the affected individual the distinction is perhaps academic. It is probably justifiable, therefore, to consider these two conditions together and to record that symptoms related to the spinal column were observed in 23 men (30 per cent.).

Pains of undetermined origin occurring elsewhere in the body were relatively rare and of little importance. Seven men reported such symptoms (9 per cent.); each had a definite label such as neuritis or neuralgia which he applied to his symptoms, but no clinical relationship could be found between the symptoms and the labels.

Diagnoses which did not come under the headings used in Table III were made in respect of five men. These included one case of gonococcal arthritis and four of chronic tenosynovitis.

Twenty men had no rheumatic complaints at all.

Effects of Rheumatic Symptoms.—Table IV shows the relationship between a history of rheumatic symptoms and certain aspects of unemployment. For the purpose of analysis, those with symptoms have been divided into two groups: those with disk lesions and indefinite pains of the back and neck, and those with rheumatic symptoms elsewhere.

These two groups are contrasted with the negative or symptom-free group.

A history of repeated unemployment was given by eight of the 23 men (35 per cent.) who complained of rheumatic pains of the back, eight of 33 men (24 per cent.) with rheumatic pains elsewhere, and only two of the twenty men (10 per cent.) with no rheumatic symptoms. This trend, however, is not statistically significant ($p < 0.2 > 0.1$).

The possible relationship between a history of repeated spells of unemployment and rheumatic symptoms contrasts with the findings for continuous unemployment of more than 2 years. 54 per cent. of the sample had been unemployed for more than 2 years at the time of interview and there is little variation in this respect between the three groups shown in the Table.

The above two observations are based on factual information, but each man was also asked to say why he had lost his job at the start of the current spell of unemployment, and also why he could not get a new job. These questions were asked before the medical examination, when no indication had been given of a special interest in rheumatism. 21 of the men with back symptoms (91 per cent.) blamed the start of their current spell of unemployment on ill-health. Those with rheumatic complaints elsewhere and the symptom-free group were more inclined to blame other factors such as redundancy, only 58 and 60 per cent. respectively indicating that ill-health had led to dismissal. This trend is significant ($\chi^2 = 8.13$; $p < 0.02 > 0.01$).

A similar trend was found in one of the reasons which was given as a cause of continued unemployment; 9 (39 per cent.) of those with disk lesions and

TABLE IV
EMPLOYMENT PROBLEMS, AGE, AND RHEUMATIC COMPLAINTS

Mean Age (yrs)		53.0		58.4		52.7		55.3		χ^2	P ($n = 2$)
Complaints		Disk Disease and Backache		Other Rheumatic Complaints		None		Total Interviewed			
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.		
Employment Problems	<i>Repeated Unemployment</i> (more than five spells of over 3 weeks' duration)	8	34.8	8	24.2	2	10	18	23.7	3.67	<0.2 >0.1
	<i>Prolonged Unemployment</i> (present spell 2 years or more)	12	52.2	18	54.5	11	55	41	53.9		
	<i>Present Unemployment</i> (ascribed to "ill-health")	21	91.3	19	57.6	12	60	52	68.4	8.13	<0.02 >0.01
	<i>Continued Unemployment</i> (ascribed to "old age")	9	39.1	6	18.2	3	15	18	23.7	4.28	<0.2 >0.1
Total interviewed, on which percentages are based		23		33		20		76			

backache thought they were too old to be of interest to employers, whereas only three (15 per cent.) of those without rheumatic symptoms were of the same opinion. Both these groups had the same average age of 53 years, and in this respect they differed from those with rheumatic complaints elsewhere than the back, whose mean age was 58.4 years (standard error 1.1), significantly higher than the mean of the other two groups. In spite of this, relatively few (six out of 33, 18.2 per cent.) of the older men with pains elsewhere than the back thought that age was against them when they applied for a job. There is thus a suggestion that those with rheumatic conditions affecting the back are more inclined to feel too old to work, but this is not significant with the numbers available ($p < 0.2 > 0.1$).

Discussion

The social effects of an illness loom largest when earning capacity is jeopardized, and in trying to assess the effects of rheumatic disease in the working population, account has to be taken of those who are not gainfully employed although they are of working age. This preliminary study has been made in an attempt to assess some of the ways in which different types of rheumatism might influence those who have severe employment difficulties.

Anderson and others (1962) suggested that rheumatic complaints affecting the back and neck, whether from diagnosable disk disease or from less well-defined causes, are more likely to be associated with a change from heavy to lighter occupations than other forms of rheumatic disease. If such changes are repeated frequently it seems probable that persons affected in this way would ultimately become unemployed for long periods. The likelihood of this happening will be greatest when rheumatic symptoms are superimposed on some other chronic disability.

In the sample of unemployed men with registered disabilities who were interviewed, there was a higher proportion with complaints of backache who attributed their unemployment to ill-health, than with rheumatic symptoms elsewhere or no symptoms. Rheumatic symptoms as such were not discussed and no examination was made until after the general history had been obtained, so that we do not know whether the men themselves felt that their rheumatic symptoms had cost them their jobs. Other findings presented here tend to confirm the relative importance of backache in contributing to employment difficulties in the form of repeated unemployment and the feeling of being unwanted because of premature ageing. These trends are not significant

and larger numbers are needed to establish the truth of this idea and also to study the importance of other variables. Rather than extending the present inquiry, however, it is felt that some other method will have to be evolved to obtain a more representative sample of the long-term unemployed.

The co-operative response from 76 per cent. of those available in the present sample, compares closely with the 77 per cent. obtained by Richardson (1956) in a broader study of unemployed men. This relatively poor response is disappointing, as it precludes satisfactory comparison of the unemployed men on the Disabled Persons Register with men currently employed in different industries. Past experience has shown that between 90 and 95 per cent. of men in employment are prepared to co-operate in surveys of this kind, but it appears that this smaller percentage is as high as can be expected in response to a direct request for information from those currently unemployed. It is understandable that such men may well be suspicious of inquiries and investigations lest these should conceal a modified means test through which their limited incomes may be reduced still further.

Other methods will therefore have to be adopted if a more complete picture is to be obtained. One such method would be to carry out a prospective study of a community of men of working age and thereafter to follow up a sample of those with rheumatic complaints and a control sample who are symptom-free. Good relationships established during periods of full employment might facilitate inquiries during any subsequent spells of unemployment.

Summary

- (1) A sample of 76 men on the Disabled Persons Register who had been out of work for at least 3 months was studied to assess the importance of rheumatic complaints in contributing to unemployment.
- (2) Arthritis or disk disease was a registered cause of disability in 11 per cent. of those interviewed, while rheumatic complaints of varying severity were reported by a further 63 per cent. This is within normal limits for men with an average age of 55 years.
- (3) The effect of rheumatic complaints on the employment record of the men is indicated and in particular the part played by rheumatic diseases affecting the back and neck.
- (4) The difficulty of obtaining co-operation from such men is discussed. A prospective study is

suggested as a possible means of securing more adequate co-operation.

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**Maladies rhumatismales affectant des hommes
sur le registre d'incapacité**

RÉSUMÉ

(1) Un échantillon de 76 hommes sur le Registre d'Incapacité, en chômage pendant au moins 3 mois, fut étudié pour déterminer l'importance des manifestations rhumatismales comme cause contributive du chômage.

(2) L'arthrite ou la maladie du disque figuraient dans le Registre comme cause d'incapacité de 11 pour cent de ceux interrogés, tandis qu'un autre 63 pour cent d'entre eux signalaient des symptômes rhumatismaux d'intensité variable. Ces chiffres sont dans les limites du normal pour des hommes âgés de 55 ans en moyenne.

(3) On indique l'effet des manifestations rhumatismales sur le dossier de travail de ces hommes, avec mention particulière des maladies rhumatismales frappant le dos et la nuque.

(4) On discute les difficultés qu'on éprouve lorsqu'on veut obtenir la coopération de tels hommes. Pour obtenir une meilleure coopération on propose une étude basée sur une enquête prospective dans une communauté de travailleurs.

**Enfermedades reumáticas afectando hombres
registrados como incapacitados**

SUMARIO

(1) Una muestra de 76 hombres, en el Registro de Incapacidad, sin trabajo durante 3 meses o más, fue estudiada para determinar la importancia de las manifestaciones reumáticas como causa contribuyente del paro.

(2) En un 11% de los interrogados la artritis o la enfermedad del disco figuraron como causa de la incapacidad, mientras que un otro 63% de ellos indicó síntomas reumáticos de intensidad variable. Estas cifras están dentro de límites normales para hombres de edad promedio de 55 años.

(3) Se indica el efecto de manifestaciones reumáticas sobre la carrera de trabajo de estos hombres, con mención particular de enfermedades reumáticas afectando el lomo y la nuca.

(4) Se discuten las dificultades encontradas al tratar de obtener la cooperación de tales personas. Para obtener más cooperación se sugiere un estudio prospectivo.