

Return to work after treatment of rheumatoid arthritis

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Summary: This study reports on the prognosis for return to competitive work of men disabled by rheumatoid arthritis following an intensive in-patient rehabilitation program. Ninety-four men were followed up at a mean time of 3.5 years after discharge from the unit. Sixty-five per cent of the city dwellers and 50% of those living in small communities or rural areas were working either full-time or half-time. Other factors such as education, work background and geographical location influenced the success of return to work.

In the city, 12 families (22%) were receiving welfare assistance prior to admission to the comprehensive rehabilitation program. At follow-up six of these families were off welfare and paying taxes. This group alone represented a minimum saving of \$35,000 yearly to public funds.

In 1969 the authors conducted a study to determine the patterns of work and financial status of male patients with rheumatoid arthritis discharged from the Rheumatic Disease Unit of the Canadian Arthritis and Rheumatism Society in Vancouver over an 11-year period, 1958 to 1968 inclusive. All patients had spent a period of in-patient rehabilitation in the team setting of the Rheumatic Disease Unit on one or more occasions, and had returned to their communities throughout the Province of British Columbia. Most had received follow-up treatment services after returning home. The group was composed of consecutive in-patients with varying degrees of rheumatoid arthritis, a number of whom, because of marked disability, did not have a goal of return to work set for them.

The primary aim of the study was to determine the incidence of return to full-time or part-time work and the level of family income at follow-up. It was hoped that this information would allow some prognostic guide as to the possibility of return to competitive work and determine whether return to work was a realistic goal for a population weighted by middle-aged men. Data collected would also indicate the percentage of families who were financially independent, with resulting savings to the community at large.

Method

The patients were followed up by a comprehensive structured interview* designed to elicit information as to occupational background and sources of income at the time of admission, work history, and income at follow-up. The interviews were carried out by one of the co-authors in the great majority of instances. A few patients residing in geographically remote areas were interviewed by the Society's physiotherapist or the family physician.

Owing to potential differences in employment possibilities, the patients were divided into two groups: those from the Greater Vancouver area (Vancouver) and those from small communities or rural areas (Out of Town).

Patient population description

A total of 201 male patients were admitted to the Rheumatic Disease Unit in the 11-year period (Table I). Of these, 151 (75%) had rheumatoid

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arthritis. These 151 patients spent an average of 79 days in the intensive in-patient program. The average recorded duration of disease, from onset to first admission, was 7.9 years.

At the time of follow-up, four patients could not be located and 27 (18%) had died. Therefore, 120 patients form the basis of the interviewed group. Sixty-nine were residents of Greater Vancouver and 51 were from out of town.

Follow-up time

The follow-up time varied from one to 11 years (average: 3.5 years). Twenty-five per cent of the patients had more than one admission to the Rheumatic Disease Unit, and the average follow-up time would have been longer had we not elected to calculate it from the date of the last discharge.

Follow-up patient population

Since, at the time of follow-up, only 94 men were under the age of 65, this population forms the basic group with which the return-to-work figures are concerned.

All patients had definite or classical rheumatoid arthritis (American Rheumatism Association criteria). At admission to the arthritis in-patient program the stage of disease and functional classification (ARA) were recorded. Most of the patients fell into Class II or III for both stage and functional capacity (Table II).

Age distribution

In this population most of the working decades were represented (Table III). At the time of admission the patients' ages varied from 19 to 64; a preponderance (64%) were in the fifth and six decades. At follow-up the ages varied from 26 to 64 years, 70% being in the sixth and seventh decades.

Definition of return to work

Forty hours' competitive weekly work or its equivalent was defined as full-time employment. Competitive half-time and seasonal work were used as criteria for part-time employment. Sheltered or occasional work did not qualify

Table I
Male in-patient population description, 1958-1968

Total male in-patients	Rheumatoid arthritis	Average stay	Average duration of disease	Total interviewed
201	151	79 days	7.9 years	120
				Under 65 years at follow-up
Deaths	—27 (18%)			
Lost to follow-up—	4 (2.6%)			94

Table II
Male in-patient population, 1958-1968:
ARA classification (94 men)

Class	Stage	Functional capacity
I	2	2
II	23	39
III	66	53
IV	3	0

as "return to work". Without such definition it is difficult to compare study results. For example, in the Pinner¹ study it is reported that 25% of the arthritics were able to secure a job when referred by the New York Selective Service. However, no definition of work is included.

Return to competitive employment

At follow-up (approximately three-and-a-half years after discharge), 55 of 94 patients (58%) were competitively employed (Table IV). From this group of 94 men, 24 were admitted for rehabilitation to improve self-care only. If one excludes these individuals, the figures for return to work are even more impressive, as 78% of the remaining men were found to be competitively employed.

Comparison of Vancouver and out-of-town employment

Patients were divided into two groups: those residing in Vancouver (54) and those from small towns or rural districts (40) (Table V). On admission to the Rheumatic Disease Unit, slightly more than 40% of the men reported that they were still employed. However, many of these stated that they were kept on by understanding employers, were receiving help from fellow workers, or were marginally managing their business or farm with family help.

At follow-up, 65% of the city residents were competitively employed, the majority working full-time. The chances were less favourable in the smaller community or rural area, where 50% were able to return to competitive employment.

Table III
Age distribution

Age (yrs.)	Admission	Follow-up
0-20	1	
20-29	5	3
30-39	10	7
40-49	18	18
50-59	50	42
60-64	10	24

Table IV
Return to competitive employment
3.5 years after discharge

	No. employed	%
Total group	55/94	58
Self-care group excluded (24)	55/70	78

Table V
Comparison of Vancouver and out-of-town employment

	Full-time employment	Part-time employment
Vancouver		
On admission	16 (30)	6 (11)
At follow-up	30 (56)	5 (9)
Out of town		
On admission	14 (35)	4 (10)
At follow-up	13 (33)	7 (17)

Figures in parentheses represent percentage.

Return to the same or similar employment

When one examines the occupational background of these men and the work pursued at the time of follow-up, there is a considerable difference in the pattern of employment in the city and out-of-town residents (Table VI). The former were more likely to have a background in professional, managerial or sales jobs. A greater proportion of those in the rural areas were in heavier occupations.

The majority of men in the top categories, regardless of location, did not have to change occupations and were able to compete successfully. As expected, men in heavy manual occupations had to change to lighter work or become unemployed. Thus, bulldozer operators and truck drivers changed to jobs as taxi drivers, night watchmen or janitors. Some employers provided lighter positions such as clerk, timekeeper or first-aid attendant.

At follow-up in Vancouver approximately one-third of the men (18) were pursuing the same occupation as before, one-third had changed occupations and one-third were unemployed. In the rural area fewer than one-fifth were able to pursue the same occupation, one-third changed occupation and about 50% were unemployed.

Geographic mobility

While one might have anticipated some movement of male patients from rural to urban areas in relationship to work, no such move took place. Changes of residential community were negligible for both the city- and the country-dwellers.

Table VI
Return to same or similar employment

Vancouver (54)		Out of town (40)		
Occupational background	Follow-up	Type of occupation	Occupational background	Follow-up
21	21	Professional managerial, clerical, sales, etc.	9	13
19	10	Skilled, semi-skilled	16	5
12	4	Labouring, farming, fishing, etc.	13	2
2		Student		
	19	None	2	20

Table VII
Correlation of education level and return to work

Educational level	No. of men	%
Grade VIII or lower	50	53
Grade IX or higher	44	47

Table VIII
Competitive employment and educational level

Area	Grade IX+ % employed	<Grade VIII % employed
Vancouver	81	44
Out of town	71	26

Correlation of educational level and return to work

Data were collected to determine the effect of education on return to work. Fifty of the 94 men (53%) had Grade VIII or lower education, while 44 (47%) had reached Grade IX or higher, including some university graduates (Table VII).

Competitive employment and educational level

Those patients having Grade IX or higher education had a more favourable rate of return to employment, both from the city and the out-of-town groups (Table VIII). In Vancouver 81% of those having Grade IX or higher education were employed, as opposed to only 44% of those with less education. The discrepancy was even greater in the out-of-town group (71% as opposed to 26%).

Sources of income

At the time of admission, 71% of the families were still listed as financially independent, i.e. not on social welfare. Forty out of 94 men indicated that they were still employed at the time of admission. As reported above, many of these men were just managing to hang on to their jobs. At admission 17 of the wives (18%) were the only breadwinners in the family. An additional two women worked to augment the family income. However, 12 families (22%) in Vancouver and 10 families (25%) from out of town were destitute and depended on social welfare. At follow-up, six families (11%) in Vancouver and 10 families (25%) from out of town were social welfare recipients (Table IX).

Table IX
Source of income

Income	Vancouver		Out of town	
	Admission	Follow-up	Admission	Follow-up
Financially independent	42	48	30	30
Social welfare recipients	12	6	10	10

Table X
Level of yearly income at follow-up

Area	Social welfare	Yearly income					Refused information
		Nil to \$3000	\$3000 to \$5000	\$5000 to \$7000	\$7000 to \$10,000	\$10,000 +	
Vancouver (54)	6	10	8	11	7	12	
Out of town (40)	10	8	7	8	2	3	2

Table XI
Community savings following rehabilitation treatment

Vancouver social welfare recipients	Admission	Follow-up
	12	6
Yearly \$ gain for 6 men on return to employment:		
Social welfare cost	\$27,000	
Income tax revenue	\$ 7000-\$8000	
Total yearly minimal savings	\$35,000	

Level of yearly income at follow-up

Comparing the yearly income of the Vancouver and rural patients, those in Vancouver had a higher level of income (Table X). Not only were there more rural patients on social welfare but also few had annual incomes in excess of \$7000.

Financial savings to the community from rehabilitative treatment

At follow-up, six patients in Vancouver formerly in receipt of social welfare assistance were self-supporting (Table XI). The cost of providing yearly social welfare to this group was approximately \$27,000. This sum did not include the cost of public housing, dental and health care subsidies, etc. The minimum income tax revenue on the six patients' restored earnings was approximately \$7000 to \$8000. Therefore, the minimal yearly gain to the community was in excess of \$35,000 (Table XI). This sum represents the savings to the community for only these six men who are now self-supporting. The savings resulting from the continued employment and increased income in the entire group have not been estimated.

Discussion

A number of studies in the past few years have focused on the return to work of rheumatic patients. The degree of success in return to employment has ranged from 25% to 72%.¹⁻⁷ Comparison is difficult. Most studies do not define the type of arthritis. In others, success in an initial return to work is quoted but success in continuing work is not noted, and too little peripheral information is included to permit a critical judgment.

In our study only a small number of patients (4) have been lost to the three-and-a-half year follow-up; a further 27 patients are deceased. The average age at death was 60.7 years compared to the male life expectancy average in British Columbia of 68.9 years.⁸ All patients had chronic rheumatoid arthritis, and for 24 patients return to work was not medically recommended as a rehabilitation goal.

In the general community the inability of unemployed, healthy, middle-aged men to return to work has been increasing at an alarming rate. In November 1968 the figures based on a Canadian Senate Committee report were published. These indicate that if a man 45 years of age or older becomes unemployed for any reason he has "a 93% chance of never being employed full-time again".⁹

In view of the recurring threat this disease poses and the lack of employment opportunities for middle-aged men, it is impressive that 58% of our entire group of patients returned to competitive employment.

It is true that the poorer work prognosis in those with educational levels of Grade VIII or lower might have been anticipated (about half of our patients were in this category), but the figures are so striking as to underline clearly the great importance of educational background.

The type of work background was also important and, again, those with supervisory or executive positions, self-owned businesses and trades competed more successfully. Education, type of occupation and job opportunity may have been decisive factors in the return-to-work advantage of the urban dweller as compared to the patients residing in an outlying community or rural setting.

Conclusion

A significant number of male in-patients with chronic

rheumatoid arthritis who have undergone an intensive educational and team treatment program can be successfully rehabilitated to return to competitive work. Two-thirds of our urban patients and one-half of those in rural areas returned to competitive employment.

Although there are changing attitudes towards work in our society, return to work continues to be an acceptable and realistic goal. This was evident in this rheumatic population weighted with middle-aged men. The importance of education and training in the return-to-work potential in our society is underlined in figures which show a very limited capacity of those with educational attainments of Grade VIII or lower to find work.

The urban dweller has a much greater likelihood of finding work than his counterpart in a small community or rural setting.

The economic consequences are highly significant in reducing poverty, reducing welfare calls on the public purse, and restoring earning capacity. The savings, as exemplified in even one small group of these patients on welfare, make this point, and represent only a small part of the greater savings accrued from rendering possible continued competitive work in more than half of the total group.

Résumé

La remise au travail du malade traité pour arthrite rhumatoïde

La présente étude avait pour objet d'établir quel est le pronostic pour le retour au travail actif d'un certain nombre d'hommes handicapés par l'arthrite rhumatoïde, après avoir subi un énergique traitement de réadaptation au Rheumatic Disease Unit (C.A.R.S.) à Vancouver (Colombie Britannique).

Nous avons suivi, pendant 3.5 ans en moyenne après leur départ du centre, 94 hommes en âge de travailler qui avaient été licenciés au cours d'une période de 11 ans. Soixante-cinq pour cent des citadins et 50% de ceux qui vivaient dans de petites localités ou dans des régions rurales avaient repris un travail actif, soit à temps plein, soit à temps partiel. En dehors de l'arthrite rhumatoïde *per se*, d'autres facteurs, degré d'instruction, ambiance au lieu du travail et siège géographique du travail notamment, ont influencé le succès de la tentative de remise au travail.

En ville même, 12 familles (22% du total) recevaient une aide du Service Social avant d'être admis au centre de réadaptation. Par la suite, six de ces familles n'appartenaient plus à la classe des assistés sociaux et payaient des taxes. Pour ce seul groupe, le programme de réadaptation a permis au trésor public de réaliser une économie minimum de \$35,000 par an.

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