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A SOCIOMEDICAL EVALUATION OF BACK INSUFFICIENCY[1]

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ABSTRACT. The Rehabilitation Clinic is described as a sociomedical institution placed between the Health Department and the Rehabilitation Departments as a part of the Danish Rehabilitation system.

Out of a group of 296 patients, 108 had back insufficiency and were sociomedically examined and followed for 3 years after discharge from the Clinic at the Orthopaedic Hospital. Of these, 47 per cent had a psychiatric diagnosis. From a sociomedical point of view, these patients were a particularly difficult group and could not be helped by conventional therapeutic methods. The psychiatric complications seemed to be clearly related to the prolonged period of inadequate medical treatment, often by passive methods. After the stay in the Clinic, about 70 per cent of the patients went back to work.

Closer medical coordination is called for in special wards. All back patients must have the right to obtain proper training as an after-treatment and to have their disorders analysed according to sociomedical principles.

The Health Department should extend their service in the hospital departments.

In recent years a large number of prolonged vocationally handicapped in Denmark, including those with multiple handicaps, have been afforded the opportunity of a sociomedical evaluation at special rehabilitation clinics.

When a decision has to be taken on social or vocational aid to such persons we do not, as earlier, rely on a one-sided estimate. At a clinic of this kind it is possible not only to obtain a medical evaluation, but through observation of the patient during work, with extensive cooperation between representatives of several professions the vocational handicap of the individual patient can be thoroughly analysed.

The rehabilitation clinic is a sociomedical institution, designed as part of our social rehabilitation system. Vocationally handicapped are referred to the rehabilitation departments and also from the Health Department and from there the difficult or unresolved cases are referred to the clinics. As Fig. 1 shows, the clinic lies between the Health Department and the Rehabilitation Departments. As regards the Rehabilitation Clinic at the Orthopaedic Hospital the acceptance of patients directly from the wards is subject to a special decision.

The clinic was originally designed to take only physically handicapped, but there has been a gradual trend towards the acceptance of some patients with mixed physical and mental handicaps. It has therefore become essential to detect the real vocational handicap during the sociomedical observation. After this stage and performance of a work test, it is often necessary to modify the medical diagnosis.

The vocational diagnosis is based on diagnostic and prognostic evaluations, which in turn are made in the light of the results of the work observation, due account being taken of the mental and socio-vocational potentials.

In the study reported in this article a group of 296 among those patients with back insufficiency were examined sociomedically and followed for 3 years after discharge from the clinic. The distribution according to vocational diagnosis is shown in Fig. 2. Classified according to the international medical register, diseases (XIII) and injuries (XVII) of the locomotor system were the most common (49 per cent), while mental disorders (V) were diagnosed in 37 per cent; next came the neurologic handicaps (8 per cent) and various other medical groups (2 per cent or less).

A completely different picture was given by the original division of the material according to reference diagnosis or the main diagnoses, made

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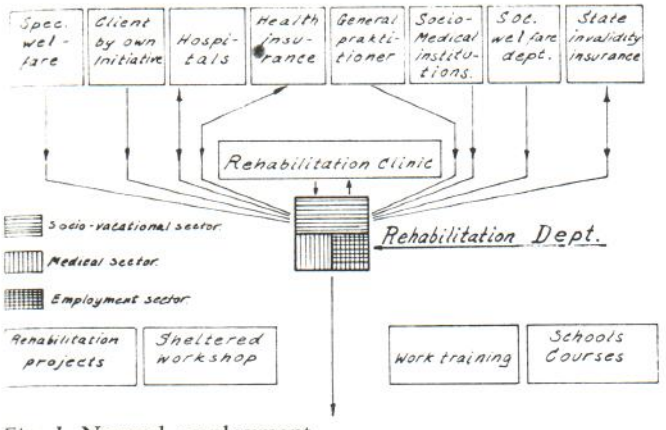

Fig. 1. Normal employment.

on a medical basis to provide an indication of the type of handicap.

On the basis of this analysis, diseases of the locomotor system accounted for 80 per cent (XIII and XVII), but mental diseases for only 2 cases.

It is often impossible to say whether it is the mental or the physical vocational diagnosis that will be the more important to take into account when planning the rehabilitation and choice of job. In practice it is often a question of estimate, made when we see the final result of the rehabilitation. Of the mixed group of the present material (Table I) 37 per cent had a mental vocational diagnosis—as defined above—that was the essential obstacle to the progress of rehabilitation, though a physical diagnosis was sometimes still the main one. The somatic disease could be cured or it remained stationary, and was therefore without significance in the context. Most of the patients were between 40 and 50 years, and women constituted 20 per cent of the group (Table II).

Most of the patients had been engaged in unskilled occupations (Table III). Intelligence and

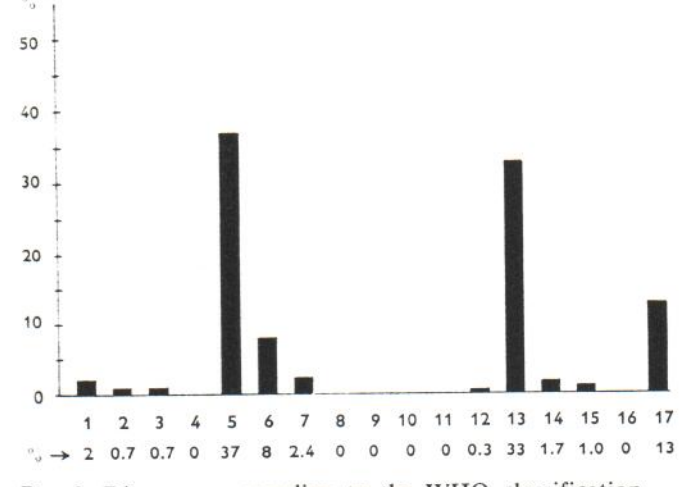

Fig. 2. Diagnoses according to the WHO classification.

Table I. *Diagnosed type of vocational handicap by sex*

	Men	Women	No.	Total (%)
Mental	2	1	3	*1*
Physical	111	22	133	*45*
Mixed	122	38	160	*54*
Total	235	61	296	100

Table II. *Percentage distribution by adress, age and sex*

Age (years)	Urban	Rural	♂	♀	Total (%)
10–19	58	42	15	9	14
20–29	70	30	16	23	16
30–39	66	34	20	15	20
40–49	75	25	29	29	29
50–59	83	17	20	24	21
60–69	50	50	0	0	0
Total	72	28	80	20	100

financial status are shown in Tables IV and V. An analysis of the source of income (Table VI) shows that 96 per cent were receiving some of public assistance; 38 per cent were getting a daily cash allowance under the National Health Insurance, 16 per cent a disability pension or an advance on this, 21 per cent insurance benefits and other kind of income, and 25 per cent public assistance.

Only one third of the family supporters were single (Table VII). Public assistance was the most commonly received by those that were capable of work, also including the largest group of family supporters. Disability pensions were most frequently received by patients 40–60 years of age.

The rehabilitation results were assessed 6 months

Table III. *Occupation on the admission*

	Men	Women	Total
Semi-skilled	6	0	6
Private work	15	0	15
Superior position	2	2	4
Inferior position	10	11	21
Skilled	46	5	51
Unskilled	*128*	*21*	*149*
Domestic work	1	17	18
Other	25	3	28
Not known	2	2	4
	235	61	296

after discharge. Contact was made with 99 per cent of the group, and a good picture of the situation could thus be obtained. Forty-four per cent had a steady job, 7 per cent were receiving training, and 49 per cent were out of work (Table VIII). Considerably fewer than originally (Table VI) were receiving a daily cash allowance and public assistance, but there was a large group of patients insured against accidents whose employment situation had not yet been settled (Table IX). For a fairly large group the rehabilitation result had still not been finally assessed by the time they left the clinic, but this is to be expected, for the clinic is normally concerned less with direct placing in jobs than with vocational planning that is to be organized at the Rehabilitation Department (Table X).

Of this series 145 were referred with a diagnosis of back insufficiency; an extensive specialist examination decreased the number to 108. At the same time it was found that 47 per cent of these 108 patients had a psychiatric diagnosis, in 44 there was a psychiatric handicap that was the direct reason for their not resuming work.

In only 40 per cent of the referred group of 145 patients the original medical diagnosis was the essential vocational handicap.

Table IV. *Intelligencelevel of 215 men and 50 women*

Intelligence quotient	Men (%)	Women (%)
Above average (110)	4	4
Average (90–110)	82	84
Below average (90)	14	12

Table V. *Income*

	Men	Women	Total
Good	26	5	31
Average	84	22	106
Poor	113	32	145
Poor also before illness	10	1	11
	233	60	293

Table VI. *Source of income before admission to 229 men, 55 women in the rehabilitation clinic*

Age (years)	Daily cash allowance		Pension		Public assistance		Other	
	Men	Women	Men	Women	Men	Women	Men	Women
10–19	6	0	0	1	4	0	26	4
20–29	15	0	5	1	9	3	3	6
30–39	22	2	1	1	13	4	7	1
40–49	28	6	15	2	17	7	7	2
50–59	24	2	14	7	7	6	3	0
60–69	2	0	0	0	0	0	0	0
Total	97	10	35	12	50	20	46	13
Per cent	43	18	15	22	22	36	20	24
	38		16		25		21	

Table VII. *Distribution by family supporting duty*

	Men	Women	Total	Supporters (%)	Not supporters (%)
Single, with dependents	21	22	43	15	
Single, without dependents	87	36	123		43
Married, with dependents	116	1	117	40	
Married, without dependents	7	0	7		2
Total			290	55	45

Table VIII. *Working situation at the follow-up*

	Steady work	%	Under-training	%	Not working	%	Total	%
Men	106	48	12	5	103	47	221	100
Women	19	30	8	12	38	58	65	100
	125	44	20	7	141	49	286	100

Table IX. *Source of support of 103 men and 38 women without job at the re-examination*

	Men		Women		Total	
	No.	%	No.	%	No.	%
Daily cash allowance	21	20	5	13	26	18 (38)
Disability pension	46	45	19	50	65	46 (16)
Public assistance	12	12	5	13	17	12 (25)
Other	24	23	9	24	33	24 (21)
	103	100	38	100	141	100

Table X. *Results of rehabilitation in the clinic in relation to working situation at the follow-up*

	♂	♀	♂ Working	♂ Not working	♀ Working	♀ Not working
Rehabilitation abandoned	53	29	9	44	6	23
Placed in the same job	20	4	14	6	1	3
New job in same work area	27	2	10	17	0	2
Rehabilitation	30	6	19	11	4	2
Education — training	54	10	42	12	5	5
Transferred to another rehabilitation institution	11	4	5	6	2	2
Other results	12	1	4	8	1	0
	207	56	103	104	19	37

About 54 per cent of the group with back insufficiency had discopathy, and these were equally divided between lumbar disc degeneration and lumbar disc herniation; 36 per cent of them had a mental vocational handicap (Table XI). There was an increasing frequency of mental vocational handicap the more diffuse the diagnosis of the back condition—the cases in which the condition is reminiscent of psychosomatic back insufficiency, described as a posture defect or indicated as diffuse back insufficiency. In only 7 cases the diagnosis had been made during previous hospitalization in psychiatric wards, all the other diagnoses having been made during the stay at the clinic.

This group of patients is not unknown to the general practitioner and the hospital ward, and may be described as the "heavy part" of the back patients, characterized from a sociomedical point of view.

When, after a long period of often unplanned medical treatment, these patients turn up at the rehabilitation clinic they are all marked by social deroute.

Analysis of this group disclosed the following characteristics:

70 per cent were employed on unskilled work.

70 per cent had had symptoms for about 10 years.

60 per cent had been unable to work for over 1 year, 30 per cent of them for 2–3 years or even longer.

81 per cent had been hospitalized up to 10 times, most of them 2–5 times, and always in a different kind of ward; none of the wards had provided adequate skilled help and treatment.

4 per cent had been in special wards.

15 per cent had never been hospitalized.

About 60 per cent of the patients with discopathy had been operated on previously for a lumbar disc herniation, 6 of them on several occasions. Of these, only 15 per cent received aftertreatment, with active training, and only 7 per cent

Table XI. *Analysis of 108 patients with main diagnosis of back disorder and vocational dia gnosis ofmental disease*

Main diagnosis	No. of patients	♂	♀	%	Mental disease	No. of patients	♂	♀	%	
Discopathy	58	46	12	53.8	Psychoneurosis	13	10	3	22.4	
					Character disorder	5	4	1	8.6	36.2
					Mental deficient	2	1	1	3.4	
					Schizophrenia	1	1		1.8	
Spinal curvature	23	15	8	21.4	Psychoneurosis	3	1	2	13.1	
					Character disorder	4	3	1	17.3	43.5
					Mental deficient	3	3		13.1	
Dorsal insufficiency	12	10	2	11.1	Psychoneurosis	5	3	2	41.6	43.5
					Character disorder	3	3		25	
Spondylosis	8	5	3	7.1	Psychoneurosis	5	3	2	6.3	6.3
Spondylolisthesis	5	4	1	4.7	Psychoneurosis	1	1		20	40
					Character disorder	1	1		20	
Spondylarthrosis	2	2		1.9	Psychoneurosis	1	1		50	50

adequate training in special wards; 8 per cent were discharged shortly after the operation without after-treatment, while the rest—70 per cent—had only passive treatment such as heat and massage.

On their arrival in the clinic the large group having received only passive treatment had had a vocational handicap for at least 2 years; in 50 per cent this was a mental vocational handicap. In the group undergoing operations this fraction was only 30 per cent. It is to be noted that during their many periods of illness none of the patients had been followed up from a sociovocational angle, and, for instance, recommended a change of job; all of them had increasing financial problems when they appeared at the Rehabilitation Clinic, and their situation in the community was marked by social deroute; the social Rehabilitation Department was not in a position to help before a thorough sociomedical evaluation with a work test had been made, so as to decide whether reeducation or simply a change to a more appropriate job should be recommended.

The various professional groups of personnel with medical and paramedical functions, the qualified work instructors and the rehabilitation counsellers form a team, the members of which, in close collaboration, formulate the treatment of the individual patient. Each of the professional staff contributes in his own way with interviews and educational influence in an effort to have the patient understand and to live with his handicap or to motivate him to resume work.

It is thus evident that these patients are essentially in need of treatment. It is especially important to recover the best possible physical condition. This is the responsibility of the physiotherapist, who also endeavours to activate the patients in an educational, "psychotherapeutic" way.

Even though medical and other specialists are necessary to analyse the problems of each patient and to provide a basis for diagnosis and prognosis, the aim is to make a general evaluation of the individual and then to canalize the efforts at rehabilitation.

Both physical and mental approaches are based on pedagogic principles and all efforts are founded on sociomedical methods with the object of promoting help to selfhelp under the prevailing circumstances. If the patient can be made to understand and live with his handicap, and if he can be placed in work when conditions permit, then our aim has been achieved.

Table XII. *Results of rehabilitation for 108 patients with back disorder as the main diagnosis*

	At discharge	After discharge: 6 months	After discharge: 3 years
Ordinary work	58	56	53
Sheltered employment	4	3	1
Sheltered employment with disability pension		5	9
Under education or training	8	7	
Disability pension, not working	16	19	20
Rehabilitation abandoned	15		
Rehabilitation not completed	2	9	2
Rehabilitation at another institution	5		
Unresolved		9	23

The physical training nearly always starts with individual instruction in back exercises, and as soon as the back is strong enough and the individual circumstances allow group training is begun. Lifting technique is also practised in groups and the instruction is made as realistic as possible and continued long enough for the movements to become reflex actions. The programme is rounded off by physical progressive exercises in groups and various kinds of self training. Passive forms of physiotherapy are in principal excluded and seldom necessary. It is occasionally necessary to include them as part of a "psychotherapeutic" element mostly in a gradual weaning process after many years of habituation to these forms of therapy.

Only infrequently it has been necessary to use psychiatric assistance over a long period where the vocationally handicapped are concerned; in our experience the psychiatrist has relatively soon been able to discontinue treatment of patients who could remain at the clinic. Ordinary psychotherapy has been just as effective for this group as for the one with no psychiatric diagnosis. The uniform treatment of these two groups and the fact that it has been possible for them to work together under similar conditions has proved valuable.

The rehabilitation results 6 months and 3 years after discharge are set out in Table XII. About 60 per cent had been working through these 3 years. During this period the group who did not

Table XIII. *Rehabilitation result 3 years after discharge of back patients with and without mental vocational handicap*

	Back disorder	Back + mental disorder (%)	Back disorder	Back + mental disorder (%)	Total
Ordinary work	36	68	17	32	53
Sheltered employment	1		0		1
Sheltered employment with disability pension	7	78	2	22	9
Disability pension, not working	13	65	7	35	20
Rehabilitation abandoned or incomplete			2		2
Unresolved	4	17.4	19	82.6	23
	61	56.5	47	43.5	108

respond had increased. Out of 23 patients 5 at the time of discharge were recommended for a pension and 4 were accepted in psychiatric wards. Three had left the clinic in anger, 5 had finished their rehabilitation with a positive result and would presumably be working, and 6 patients continued in their previous job after leaving the clinic. These 14 patients had not applied for help or been in contact with the Rehabilitation Department since their discharge, and they are included in the group that had resumed work.

Between the groups with and without a psychiatric diagnosis there was a striking difference in the rehabilitation results after 3 years (Table XIII); whereas only 19 out of 47 with a psychiatric diagnosis had a job (40 per cent), while 44 out of 61 with a clearly somatic back deficiency fell in this group (70 per cent).

Most of the group who did not respond (23) were patients with a psychiatric vocational handicap; if these are taken into account the patients with psychiatric and those with a definite somatic vocational handicap who were working, numbered 30 and 47, respectively (64 and 77 per cent).

Conclusion. In a rehabilitation clinic in which the above mentioned principles are applied it is possible to make an extensive sociomedical evaluation of each patient and a "heavy" patient-material can be followed with other methods than is possible in hospital wards.

From a sociomedical point of view these patients with back insufficiency are a particularly difficult group—of a type not unknown to the medical ward or the general practitioner, and one that is ordinarily deemed inaccessible to conventional therapeutic methods. Clinically, these patients have suffered a hard fate at the hands of our health service system, and 85 per cent of the present series may be considered to have received inadequate medical treatment. The psychiatric complications from which the individual patient is suffering, seem to be clearly related to this fact, especially in the case of those that had been reveiving treatment by passive physical methods for years.

Closer medical coordination is called for in the treatment of back conditions, with admission to special wards at the right time and the introduction of physical training. All back patients must have the right and the opportunity to obtain proper training as an after treatment whether the treatment has been surgical or conservative.

Regardless of the individual medical view-points of this need, all these patients should be afforded the opportunity of having their disorder analysed in accordance with the described sociomedical principles. In this way an effort can be made that has wide economic, social and human implications. The Health Department might well extend their service in the hospital departments without major expense, but for the time being we must rely on the new rehabilitation clinics.

The referral of patients must be made easier, and this is best done by direct contact instead of through the Rehabilitation Departments. Administratively, this would require only minor changes in the rehabilitation legislation.

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