A Program for Rehabilitation of Patients with Tuberculosis* **

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Introduction

The combined program of chemotherapy with potent antimicrobial agents and decreased application of bed rest provided broad opportunities to expand rehabilitation services and to assist hospitalized tuberculous patients in all areas of social, emotional, and vocational adjustment. Thus, at National Jewish Hospital, it became possible to offer a variety of rehabilitation services specifically designed to meet the special needs of each patient during hospitalization. Compared to the limited opportunities available under the older system of prolonged bed rest and lengthy hospitalization, this was a distinct improvement.

A widely accepted contemporary philosophy of rehabilitation recognizes that many dynamic factors (physical, emotional and social), constantly interacting and dependent upon each other, must be considered in the management of hospitalized human beings. Evidently every facet of the patient's life requires consideration in determining the appropriate services needed by the individual at any given time. Therefore, a closely integrated medical-rehabilitation program was developed. Patients were provided with the maximum opportunity to participate in and benefit from complete rehabilitation treatment during hospitalization.

Frequently, in reality, rehabilitation was initiated on the day the patient entered the hospital. Sometimes this occurred through formal contacts by social service and occupational therapy workers, but often on an informal basis by other individuals, including other patients. Provision was made to enable patients to remain in the hospital until all rehabilitation training had been completed. Approved medical discharge was considered only after maximum benefits had been achieved through both medical and rehabilitation treatment. In this way, the goal of having the patient leave the hospital and immediately return to community living and employment was established early during hospitalization.

Combined Organization

The specialized services of the social worker, clinical psychologist, vocational counselor, occupational therapist, and psychiatrist are required to meet the personal needs of hospitalized patients. With these specialists operating as a team, it is possible to offer rehabilitation services designed to meet the many and varied needs of such patients. Administratively, all of these services have been combined into a single operating unit, the Department of Rehabilitation Services. These services are housed in

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the National Rehabilitation Center building. The chief of each of the
services is responsible to the director of the department, who in turn is
directly responsible to the director of medicine. In essence, this plan is in
line with the ideas of Rusk and Haas' who pointed out, "The inclusion of
all required services under one roof and under a unified administrative
structure insures the maximum utilization and most efficient operation
of such a program."

While many factors influence the establishment and maintenance of
an effective rehabilitation program, our experience indicates that total
staff support is essential. Adequate equipment and buildings are import-
"ant, but a program's success is dependent upon staff attitude. A firm
conviction that rehabilitation is of great importance to each individual
patient is held by all members of the Division of Medicine as well as the
Department of Rehabilitation Services. These concepts have been incor-
porated into every phase of treatment and seem to reinforce the patient's
feelings of self respect and tend to foster a positive attitude toward both
hospital and treatment. In this way the setting offers every opportunity
to increase the patient's acceptance, motivation and participation in
medical treatment and rehabilitation.

Patient Education

The education of hospitalized patients is an important factor in reduc-
ing initial anxieties and fears concerning illness and hospitalization as
well as in helping patients gain a better understanding of their illness
and treatment. All newly admitted patients are encouraged to attend a
series of small informal "question and answer" classroom sessions which
are conducted by the medical director. The director of rehabilitation
services also attends these meetings. Patients are encouraged to ask for
information relevant to their illness, hospitalization, treatment, and the
future. Such questions are considered in a frank and relaxed manner in
order to promote better understanding of the disease tuberculosis and
what the patient can expect during hospitalization. These measures are
aimed at improving patient knowledge, understanding, and communica-
tion early in hospitalization, and help to promote a sense of security
during this critical period of adjustment. In many instances, replacing
fiction with fact tends to eliminate fears which patients harbor when
they enter the hospital. The reactions and feelings of patients noted
during patient education sessions also provide important clues in deter-
mining which patients might need further assistance on an individual,
personal basis.

In addition, providing patients with the opportunity to meet the
medical and rehabilitation directors probably reinforces the understand-
ing that the staff, at all levels of operation, consider the patient to be
more important. This plan also helps to establish a positive relationship
between the staff and the patients. Thereafter, the patient has unlimited
access to any member of the professional staff. The medical director
reserves specific hours for patient appointments so that any one who
desires may have an audience with him.

General considerations: Many of the rules and regulations governing
the conduct of patients in tuberculosis hospitals seem to ignore the
rights of the individual and degrade the dignity of the person. Probably these were established without adequate knowledge. We have made a concerted effort to examine every policy affecting the management of our patients. As a result, some of the protective techniques which have been part of the treatment of tuberculosis for so many years have been eliminated or modified.

The use of masks and gowns is limited to special situations. In general, neither staff nor patients wear masks and gowns, except when the patient has a large number of tubercle bacilli in the sputum and his personal hygiene is known to be poor. This program has been carried out satisfactorily for patients, staff, and community by developing and maintaining the patient's interest and motivation in practicing good habits of personal hygiene.

Some of the policies governing segregation of patients in tuberculosis hospitals tend to defeat the goal of rehabilitation by fostering excessive dependency and creating many unnecessary fears. It is important, therefore, to provide patients with the opportunity to participate in “normal life experiences” during hospitalization. As a result, all hospital activities have been opened to both male and female patients. Male and female patients eat in the same dining room, participate in the same recreational activities (including dances) and attend religious services together.

Because early physical activity is prescribed shortly after hospitalization, the majority of patients are permitted to participate in off-the-ward programs. This is modified, of course, when acute illness exists.

Patients are encouraged to participate in community activities outside the hospital as soon as their disease becomes non-infectious. For example, passes to leave the hospital are granted when the patient is able to accept responsibility for his personal hygiene and behavior. No patient who is considered sputum positive or who constitutes a hazard to the community is eligible for such passes. In this way, many of our patients are able to gain valuable experience and a sense of security about community living before discharge from the hospital.

Patients' Council

The council was developed to provide the patient population with a greater degree of participation in hospital recreation programs. Membership is open to all patients. The council is a self-governing body. Its officers are elected by a vote of all the patients on the tuberculosis service. Through the council, the patients plan their own recreational program both within the hospital and in the community.

The council also provides the staff with important information concerning the patients' concepts of the hospital program. In this way, the staff obtains information which is helpful in improving services to patients.

Training Programs

The following material identifies four theoretical programs designed to meet the varied needs of tuberculous patients. Such groupings were designed merely for simplicity of presentation. In reality, various combinations and modifications of these four programs are utilized daily.
1. **Physical Therapy Program**: This program aids in the physical restoration of the patient. Activities include exercises and tasks designed to provide improvement in coordination, balance, joint mobility, muscle strength, circulation and breathing. Both surgical and non-surgical patients make use of this program.

2. **Maintenance Program**: This program was designed to meet the needs of those patients who adjusted adequately prior to hospitalization, and have the physical and emotional capacity to return to their pre-hospital status after discharge. In these cases the rehabilitation goal is directed toward helping the patient maintain his level of interest and motivation through physical hardening, occupational therapy, social and leisure activities. Vocational training is used to brush up on existing skills. However, this group usually requires only minimal assistance since these individuals have many personal resources. In some instances a member of this group is motivated to obtain further vocational training in order to raise employment status and earning potential.

3. **Retraining Program**: This program is oriented primarily for those patients who, due to physical or emotional disabilities, are unable to return to former occupations or activities. Such patients need to be fully trained so they might return home and engage in gainful employment and social functioning. A complete and intensive program involving all of the rehabilitation services often is necessary for these patients.

4. **New Training Program**: This group consists of those patients who never learned a suitable occupation. Frequently, these patients have been hospitalized for long periods and/or at an age before their occupational and social abilities had been developed. As above, a total program is required, and frequently this is of long duration.

**Program Co-ordination**

During rehabilitation conferences, in which all the staff participate, varied understandings of the patient by the medical, nursing, and rehabilitation staffs are combined together into a total picture of the patient. Close integration of the medical and rehabilitation services, not only during such formal conferences, but at other times, make it possible to plan a comprehensive medical-rehabilitation program for each patient. Insofar as possible, every facet of the patient’s social and emotional adjustment is taken into consideration in this “total” rehabilitation program.

Rehabilitation also necessitates knowledge and understanding of the family and community. Since our patients come from all parts of the country, the family that is in need of professional assistance is referred to local social or welfare agencies. In this way, assistance is made available to the family before, during, and after the patient’s hospitalization.

**Specialized Services**

A series of prevocational, vocational and educational programs are available as part of the hospital rehabilitation program. The prevocational evaluation program is useful in providing pertinent clues and information concerning the patient’s employment potential.
A prevocational assessment based upon patients' participation and performance in a variety of occupational therapy activities is made by the Occupational Therapy Service. This is an integral part of total occupational therapy services which include both physical hardening and leisure time activities.

The social worker provides important information concerning the patient's background and the unique way in which he is getting along with himself and relating to other people. Case-work treatment (psychiatrically oriented) is provided when patients encounter difficulty with respect to family matters, hospitalization and treatment. Such casework treatment on both a limited and intensive basis is available at all times.

A variety of prevocational training workshops including barbersing, cosmetology, typing, bookkeeping, accounting, sewing, radio and television repair, and printing, as well as academic courses, such as English, "English for New Americans," history, and correspondence courses in several subjects are available. All of these programs are conducted by classroom teachers who are members of the hospital rehabilitation staff.

Knowledge of the patient's performance in prevocational activities is combined with information obtained from vocational and clinical psychology testing and the reports of other members of the medical and rehabilitation staff. Periodically, the occupational therapists and the prevocational teachers complete written evaluations of each patient's progress. In this way, patients are thoroughly evaluated and arrangements made to start specific training without delay even while undergoing intensive chemotherapy. At the same time, the patient has the opportunity to test out his capacities and abilities in a variety of practical, working, prevocational situations.

When the patient is no longer considered a public hazard by the medical staff, every effort is made to continue training in an accredited community vocational program. Therefore, non-productive waste of time is reduced to a minimum.

The hospital established a special rehabilitation dormitory to make the attainment of this goal possible. This dormitory houses all patients who are no longer in need of intensive medical care and are in rehabilitation programs. Patients are provided quarters in this building until they complete rehabilitation training and are discharged from the hospital.

In order to carry out this program, close liaison is maintained with the Colorado Department of Rehabilitation. A number of rehabilitation patients are referred to this agency in order to arrange enrollment in community courses. This agency assists the patient in filing his application for support of training with the state in which the patient has residence. A counselor from the local state agency attends rehabilitation conferences and provides direct assistance to our patients in working out training and if necessary, job placement. Thus, "complete rehabilitation" is possible during hospitalization.

Illustrative Case Study of "Total Rehabilitation"

A 30 year-old white married woman was referred to National Jewish Hospital in February, 1955, by the medical director of a hospital at which she had been a patient, intermittently, since 1952. Three months after her first hospitalization, she left the...
hospital against medical advice. In 1953, she was hospitalised. Right posterolateral thoracoplasty was performed in 1954. Her sputum remained highly positive and roentgenograms revealed a large cavity with a fluid level under the thoracoplasty, and a cavity on the left.

She was an attractive woman who had been separated from her husband for five years. A daughter born in 1945 and a son in 1946 were being cared for by her husband's family. Her parents were deceased.

At the time of admission to National Jewish Hospital, the patient's condition both physically and emotionally was poor. She was depressed and extremely concerned about her future. She was seen on a regular basis by a staff social worker. Occupational therapy was provided on the ward, except for those rare times when she was able to go to the clinic. With a great deal of help on the part of the medical and rehabilitation staffs, she eventually was able to undergo four separate surgical procedures during 1955 and 1956. In spite of the first three surgical procedures, the sputum remained persistently positive, she lost weight, and deformity increased. She expressed extreme anxiety before each operation and obviously was greatly concerned about her increasing physical deformity. She expressed fear of being hurt, was concerned about dying and became depressed after each surgical procedure.

During this period, she was preoccupied with her physical condition to the point of showing only slight interest in planning for the future. However, in late 1955, for the first time, she expressed an interest in cosmetology.

During 1956, the patient began to discuss her feelings about her family. Her intense feelings of dependency and insecurity gradually emerged. She felt quite guilty about not being able to care for her children, even though she recognized that physically she was not able to earn a living at that time. With casework help she was able to keep her anxieties under control.

By the early part of 1957, her sputum had become consistently negative on culture. Only then did she turn her attention to vocational planning. The social worker referred her for vocational evaluation. After completion of vocational testing and counseling, she was assigned to both the cosmetology and clerical programs in the hospital. A test period in the hospital's beauty shop confirmed her interest and aptitude for further training in cosmetology. She was then placed in a cosmetology program in a local accredited training center. However, since some reservations had been held concerning her physical ability to meet the demands of a full-time program, the training was planned as part-time training.

She began formal training in September, 1957. Immediately, she began to gain weight and her general physical condition improved. She seemed to gain a great deal of satisfaction from this program and her physical stamina seemed to justify a change. Shortly thereafter she was placed on full-time training status. Social service and vocational counseling assistance were continued throughout this period. She completed her State Board Examination in June, 1959. As a result of her excellent school record, she had several job opportunities available to her. She was discharged from the hospital in July, 1959. During the entire training period, she resided in the rehabilitation dormitory.

At the time of discharge, she was very pleased with herself. She was particularly happy to be able to work and help support her children. By this time she seemed rather definite about not returning to her husband. She appreciated her in-law's care of her children, and since her husband did not live with his family, she planned to spend some time with her in-laws and the children in order to become reacquainted with them. Initially, she planned to leave the children with her in-laws until she started to work, located an apartment, and saved some money. In time, she planned to establish a home for herself and her children.

An individual, once considered a hopeless case and doomed to remain hospitalized for the rest of her life was restored to a productive existence by a combined medical-rehabilitation program. The road to rehabilitation was long and difficult and the patient had to be helped all along the way, but the results were rewarding to the staff, the community, and most of all to the patient herself.

There are many other patients with problems as difficult as this one. While this case represents a long-term rehabilitation problem, the total team approach applied in this instance is representative of the program that has been available to all of our patients on an individual basis, regardless of the extent of their illness. Through this approach we may provide maximum opportunity for rehabilitation to a greater number of people who are hospitalized with tuberculosis.
SUMMARY

It seems fair to assume, on the basis of several years of preliminary experience, that a modern program for tuberculosis should combine the effective use of all aspects of medical treatment, especially chemotherapy, early ambulation, and planned activity. It was observed that this program which emphasized the healthy aspects of the patient’s emotional and social adjustment often served to counteract any tendency to become dependent upon the hospital. Vocational training, equipment, and prescribed physical activity were not considered enough. It was noted that the rehabilitation program became more effective when patients realized that they were being offered a real opportunity to be helped emotionally, socially, and/or vocationally.

It is our conclusion that it is not useful to employ the concept of the “typical” tuberculous patient. Attempts to understand tuberculous patients in terms of stereotypes can often be misleading. Rehabilitation planning should, therefore, be geared to meet the unique needs and personality differences of individual patients. This necessitates close cooperation between all members of the staff so that every aspect of the patient’s life can be considered as part of “total treatment.” Such a rehabilitation program as is described here seems to offer the best opportunity to prepare the hospitalized patient to return home as a productive citizen and with a greater degree of security.

Many of the barriers, which for so many years limited the scope of rehabilitation, have been removed under this approach. Should the results of this program be confirmed by careful follow-up studies, it is fair to conclude that we have entered a new era in the rehabilitation of tuberculous patients.

RESUMÉ

Ils semble logique d’assurer, sur la base de plusieurs années d’expérience préliminaire, qu’un programme de traitement moderne pour la tuberculose devrait associer l’utilisation effective de tous les aspects du traitement médical, particulièrement la chimiothérapie, la mobilisation précoce et l’activité dirigée. On a observé que ce programme, qui met l’accent sur les aspects sains de la condition émotionnelle et sociale du malade, a souvent permis d’améliorer sa tendance à devenir dépendant de l’Hôpital. Un entraînement professionnel, un équipement, et la prescription d’une activité physique ne sont pas considérés comme suffisants. Il a été noté que le programme de réadaptation devient plus efficace lorsque les maladies prenaient conscience qu’on leur offrait une occasion réelle d’être aidés émotionnellement, socialement et/ou professionnellement.

C’est la conclusion de l’auteur qu’il n’est pas utile d’employer le concept de malade tuberculeux “typique.” Des tentatives pour comprendre les maladies tuberculeuses selon des termes stéréotypés peuvent souvent conduire à une impasse. Un Programme de réadaptation devrait donc être conçu pour aller au-devant des besoins individuels et des différences de personnalités des malades. Ceci nécessite une collaboration étroite entre tous les membres du personnel de telle sorte que chaque aspect de la vie du malade puisse être considéré comme une partie d’un “traitement global.” Un tel programme de réadaptation comme il est décrit ici, semble offrir la meilleure occasion de préparer le malade hospitalisé au retour dans son foyer comme un citoyen productif et avec un grand degré de sécurité.

Beaucoup des barrières qui pendant tant d’années limitèrent le champ de la réadaptation, ont été abaissées sous cette tentative. Même si les résultats de ce programme
ZUSAMMENFASSUNG


Viele der Hindernisse, die während so vieler Jahre den Bereich der Rehabilitation eingeschränkt haben, wurden bei dieser Betrachtungsweise aus dem Weg geräumt. Würden die Ergebnisse dieses Programms durch sorgfältige Verlaufsbeobachtungen bestätigt, so wäre der Schluß angemessen, daß wir in eine neue Phase in der Rehabilitation des tuberkulösen Patienten eingetreten sind.

REFERENCES


ERRATUM

The correct title of the paper by Maurice S. Tarshis, Ph.D., Alexandria, Louisiana, which appeared in the October, 1961 issue of Diseases of the Chest (40:374) is "Further Investigation on the Usefulness of the Direct Qualitative Micro-Niacin Test for Distinguishing Human Tubercle Bacilli from Other Mycobacteria."