

Measurements of the working time of doctors, physiotherapists and the use of specialized equipment at the Rehabilitation Ward of Specialist Hospital in Zamość

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Abstract

The aim of this article is to examine the workload of the doctors and physiotherapists during the fitness process of patients with different disorders and in different clinical condition. The survey regarded the workload of doctors, physiotherapists and the measurement of the use of specialised equipment in the process of rehabilitation of 361 patients, hospitalized from October 2002 till September 2004. In the research some elements of activity sampling method and elements of self-photography of the working day were used. The authors divided doctors' work into two categories: indirect activities and direct activities, the criterion being the contact with patients. The most demanding in terms of the doctors' involvement, were the patients in the most serious clinical condition: patients with hemiparesis (0-55 on Barthel scale), with multiple sclerosis in severe phase, with tetraplegia and tetraparesis. Indirect activities account for only about 40% of the doctor's working time, while the indirect activities are close to 60%. The working time of physiotherapists was divided into three categories: preparation, organizational activities, and main activities. The main activities take up most time with patients in the most severe clinical condition. Preparatory and organizational activities occupied comparative amounts of time. The authors also observed that the use of specialized equipment is lowest in rehabilitation of patients in the most severe clinical condition. The reason is that those patients first of all need in-bed treatment.

Key words: rehabilitation, management, economics.

Introduction

Measurements of the working time are chiefly serving the purpose of establishing time standards and the results of the measurements may be used for organizational research. The measurements are a significant source of information about the current state of the organization, about its efficiency and productivity. The purpose of measuring work is also detection of the lost time, its amount, character and reasons. The measurements create foundations for finding methods of eliminating the losses [1,3-5].

The present rehabilitation facilities and limitations introduced by the contracts with the payer of medical services do not allow to satisfy rehabilitation needs of Polish society. Long queues of patients expecting hospitalization and limited chances of urgent receptions are the result of this state of affairs [2]. At the same time the problem of planning the treatment in the ward taking into account human and equipment resources is rising. Each patient requires different kind of commitment from doctors, physiotherapists and nurses, depending on his or her clinical state and specific illness. In cases requiring particularly big amounts of labour, exceeding the capability of an institution, the quality of treatment decreases drastically.

The aim of the article

The aim of this article is to examine the workload of the doctors and physiotherapists during the improvement process of patients with different disorders and in different clinical condition and the use of specialized equipment at the Rehabilitation Ward of Specialist Hospital in Zamość. The knowledge resulting from this analysis may help to utilise the potential of the ward more effectively, protect the organization against losses and raise the quality of provided services.

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Material and methods

The survey regarded the workload of doctors, physiotherapists and the measurement of the use of specialized equipment in the process of rehabilitation of 361 patients, hospitalized from October 2002 till September 2004. The authors divided doctors' work into two categories: indirect activities and direct activities, the criterion being the contact with patients. The working time of physiotherapists was divided into three categories: preparation, organizational activities, and main activities:

- preparation – acquainting oneself with the plan for improving of the patient prepared by doctors, the preparation of the patient and equipment, tidying;
- organizational activities – preparing medical documentation (written observations from the course of rehabilitation of patients) and preparing administrative documentation;
- main activities – executing physical therapy treatment, the presentation of exercises, control of correctness of exercises executed by the patient, patients' education.

In the research some elements of activity sampling method and elements of self-photography of the working day were used.

The time of executing exercises by patients and elapsed time of physical treatment was treated as the identical time with using the equipment and was marked with the letter D in the following tables. The time includes preparation of the equipment by the physiotherapist, physiotherapists' main activities, the time of executing exercises by patients and physical treatments without the physiotherapist's participation.

The uniform measuring form was prepared to be filled in for each patient. It provided documentation of the time of each treatment according to the mentioned categories. Times of each treatment were measured and then they were added up at the end of each day. Time of every of treatment, at the given patient, was being measured three times, at the beginning of the hospitalization, in the middle of the hospitalization and a day before leaving the hospital. Distribution of the value of times of these treatments was similar to symmetrical and therefore the arithmetic means were calculated. Moreover, standard deviation was calculated.

The authors divided doctors' work into two categories: indirect activities and direct activities, the criterion being the contact with patients. A measuring sheet was prepared especially for the needs of the examination of direct activities, which "was accompanying" the patient during treatment. Each doctor, once a week, was adding the time he devoted to the patient, i.e. direct activities. Direct activities included the following: collecting information about the patient, the examination, taking some orthopaedic supply, injections, supplying wounds, catheterization, patients' education. Measurements of indirect activities were made similarly. Appropriate sheets were located in the doctors' office. The time was noted down in the appropriate place after every executed activity. Times of each activity were being measured, and then towards the end of every measuring day they were being added up. Times of direct activities for every patient were measured twice: at the beginning of the hospitalization and in the days close to the day of leaving the hospital. Patients with hemiparesis were

divided into 5 groups, according to the functional state using the Barthel scale.

Results

Patients with hemiparesis, depending on the functional state, evaluated by means of the Barthel scale, required various amount of labour of physiotherapist — people in the hardest clinical condition on average 121 minutes a day, patients in the best shape on average 52 minutes.

Main activities with patients with tetraplegia took on average 127 minutes, with patients with tetraparesis around 114 minutes, and with persons with paresis of lower limbs on average 85 minutes. Patients with the multiple sclerosis required the workload of around 97 minutes. Main activities with patients after the amputation of a lower limb were occupying on average 56 minutes, with patients with vertebral column pain syndrome 63 minutes, whereas at persons with degenerative changes around 49 minutes.

Preparatory activities and organizational activities were occupying comparable quantities of the time in all cases.

Authors also observed that the usage of the specialized equipment was smallest in case of rehabilitation of patients in the hardest clinical condition. It is resulting from the fact that patients from this group require first of all improving in the bed and next to the bed.

Patients with hemiparesis depending on the functional state, evaluated by means of the Barthel scale, required the various amount of workload of doctors (direct activities), patients in the hardest clinical condition of on average 36 minutes a day, patients in the best shape on average 24 minutes. Direct activities with patients with tetraplegia occupied on average 38 minutes, with patients with tetraparesis of around 32 minutes, and with patients with paraparesis of lower limbs on average 29 minutes. Patients with the multiple sclerosis required direct activities of around 26 minutes. Direct activities with people after the amputation of a lower limb were occupying on average 23 minutes, with patients with spondylalgia 22 minutes, whereas with persons with degenerative joint disease 19 minutes.

Indirect activities were occupying on average from 69 to 52 minutes a day per patient, of what doctors were spending the most time on the general visit, the entry of the observation, the report and the patient's extract from. The least time was consumed for preparing the place of work, the information retrieval about the patient in the hospital computer network and ordering the consultation and extra examinations.

Conclusions

1. The main activities physiotherapist's take up most time with patients in the most severe clinical condition.
2. Preparatory and organizational activities occupied comparative amounts of time.
3. The authors also observed that the use of specialized equipment is lowest in rehabilitation of patients in the most

severe clinical condition. The reason is that those patients first of all need in-bed treatment.

4. The most demanding in terms of the doctors' involvement, were the patients in the most serious clinical condition: patients with hemiparesis (0-55 on index Barthel), with multiple sclerosis, with tetraplegia and tetraparesis. Indirect activities account for only about 40% of the doctor's working time, while the indirect activities are close to 60%.

References

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