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METHODOLOGY FOR THE EVALUATION OF ENVIRONMENT
CONTROL DEVICES IN HOSPITALISED MOTOR
DISABLED PATIENTS

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INTRODUCTION

Six beds in the adult rehabilitation department of the Raymond-Poincaré hospital-Professor HELD's department-Garches, FRANCE are equipped with electric devices. The aim of this study is to outline the methodology employed to evaluate the usefulness of these devices in the treatment of motor disabled persons, especially tetraplegics.

The goals are the following: to improve the quality of their lives, to improve our methods of nursing, to shorten their stay in hospital, to facilitate their social and professional re-entry into the community.

The description of the equipment and the pedagogic methods used to help towards the patient's social and professional rehabilitation are the subject of two other communications. This paper deals only with the quality of life and nursing procedure.

This evaluation is carried out during the patient's stay in hospital and is continued after they have returned to their homes. The data is obtained from standard questionnaires completed by one group of patients using electronic devices, and by another group answering without the help of the devices.

The nursing staff collates the data.

I - THE EVALUATION COMMITTEE

This committee includes representatives of the Ministry of Health and Welfare which sponsors the project, the administrative and medical staff of the Garches Hospital, and the group set up by the Paris Department of National Assistance, for the purpose of assessing the value of new technologies (CEDIT).

This study is made at the desire of those bodies who are seeking for a way to improve the quality of medical care, and at the same time decrease the cost of hospitalisation. The public health objectives have been fixed by the French Ministry of Health and Welfare. The evaluation protocol has been written by the CEDIT. The hospital administrative and medical staff are collecting the data.

II - DESCRIPTION OF THE EVALUATION PROCEDURE

Acceptance and exclusion criteria have been defined as

II.1 Acceptance criteria

age: 15 to 65 years old

sex: male or female

etiology: recent traumatic tetraplegy (motor neurologic level up to C6)

First stay in a neurologic rehabilitation department since the date of the accident.

Nationality: French or resident in France.

obligation: the disabled person must stay in the department during the whole of the rehabilitation program.

II.2 Exclusion criteria

Disabled persons are excluded when:

They cannot read on a monitor.

They have serious bed sores.

They have memory and behaviour problems.

They have communication problems and difficulty in reading.

They have a chronic illness or other organic deficiencies in addition to tetraplegic complications.

They need permanent ventilatory aid (wearing a tracheotomy nozzle will not lead to exclusion).

Disabled persons who leave our department for one month or more are excluded from the evaluation.

III - CONTENT OF THE MEDICAL RECORD

The medical record includes general information about the disabled person:

- Family situation
- Level of education
- Profession
- Psychological profile

The nursing program

The kinesitherapy program

The ergotherapy program

A quality of life questionnaire about the autonomy of the disabled person:

- Call signal
- Environmentnal control (for instance bed, fan, door, window light) and
- Communication control (T.V., magnetophone, telephone).

The quality of life questionnaire provides an estimate of the help given by the devices. The estimation is both quantitative and qualitative (number of utilisations and facility of use). These evaluations are made for the three periods of the day: morning (7 to 15 H) afternoon (15 to 23 H) and night (23 to 7 H).

IV - TREATMENT OF DATA

For each disabled person the data is collected every two weeks. Following the same scheme the working charge questionnaires describe the activity of the nursing staff.

In the hospital only two persons are responsible for collecting the information in order to avoid the distortion of the data (a senior nurse and a physician) when the disabled persons have returned to their homes the data collection is made by the same physician at the same rate of frequency. The analysis of the results collected in the hospital enables the proper needs of each disabled person to be defined and their home installations to be correctly adjusted.

V - COST EVALUATION

To calculate the cost of his hospitalisation an "Output standard Resume" (O.S.R.) is established for each patient. It contains both administrative and medical information.

The medical information consists of the main diagnostics and the main therapeutic acts. This "Output Standard Resume" (O.S.R.) derives from a pilot experimentation in 1984 which was spread over about 60 hospitals and was sponsored by the Ministry of Health and Welfare. The object is to measure the activity of the medical departments in correlation with the cost of the working conditions. The pilot experimentation is part of an extended project which covers all medical disciplines, and which is related to the budgetary policy of the French hospital administration (The medicalisation of the information system based on the work of Professor Fetter and his collaborators, and introduced into France by Dr J.M. Rodrigues)

VI - CONCLUSION

The final report will be submitted to the French Ministry of Health and welfare.

The purpose of this study is to draw attention of the French Department of Social Security to the desirability of financing the purchase of these devices for general use in rehabilitation centres for tetraplegics.

QUESTIONNAIRE: "QUALITY OF LIFE"

NAME

AUTHOR:

First name

date

A) Quantitative study: Do you use?

- | | |
|------------------|-----------------|
| a) 1. very often | b) 1. 7 to 15 H |
| 2. often | 2. 15 to 23 H |
| 3. seldom | 3. 23 to 7 H |
| 4. never | |
| a | b |

- call signal
- Window control
- Door control
- Operating dialing telephone
- Light control
- Night light (dimmer)
- Bed control
- TV Control
- Electrical turning pages command
- Fan control
- Magnetophone
- Other

REMARKS

- From patient
- From family and relatives
- From nursing staff

B) Qualitative study

- a) does it seem to you? 1. very easy to...
 2. easy
 3. difficult
 4. impossible
- b) does it work? 1. very well
 2. well
 3. badly
 4. very badly
- c) is? 1. indispensable
 2. very useful
 3. useful
 4. not useful
- d) are you? 1. very satisfied
 2. satisfied
 3. not really satisfied
 4. not at all satisfied

	a	b	c	d
• call signal	-	-	-	-
• window control	-	-	-	-
• door control	-	-	-	-
• Operating dialing telephone	-	-	-	-
• light control	-	-	-	-
• night light (dimmer control)	-	-	-	-
• bed control	-	-	-	-
• TV control	-	-	-	-
• electrical turning pages command	-	-	-	-
• fan control	-	-	-	-
• magnetophone	-	-	-	-
• other	-	-	-	-

REMARKS

- from patient
- from family and relatives
- from nursing staff

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