PROFESSIONAL ROLE AND AUTONOMY IN PHYSIOTHERAPY

A Study of Swedish Physiotherapists

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ABSTRACT. A study of 163 physiotherapists' conception of their professional role and autonomy and the implications for their work has been completed. About half (55%) felt that physicians and other staff members primarily expected them to act as independent professionals, while about one-third (34%) felt that they were expected to undertake treatment after referral from or discussion with the physician. Most physiotherapists (86%) were firmly in control of their treatment methods, but had somewhat restricted freedom in deciding whom to treat, and when to terminate treatment. The majority (96%) regarded their professional tasks as being important for others. Few (14%) had carried out any systematic evaluation of their methods and results—hence few obtained any objective feedback from their work, which is believed to affect the quality of work, as well as work motivation and job satisfaction.

Key words: physical therapy, professional competence, professional practice, role concept.

This investigation was designed to analyze the conception physiotherapists have of their professional role and autonomy and the implications for their work. In social sciences it has been demonstrated that the concept of role is useful in linking individuals and organizations (1, 2, 3). Thus, role theory was used as a conceptual scheme for this study. Additionally, the impact of job design on job motivation and satisfaction and also on the quality of work, as described by Hackman & Oldham (4) and Epple & Nelander (5), was used for interpreting and summarizing the findings.

Role as a concept

Various authors have applied the role concept differently, but two major perspectives have dominated: the 'functionalist' and the 'interactionist' approaches (1, 2, 3). In the functionalist view of society, roles and norms are treated as established social phenomena, whereas the interactionist's interpretation of roles and role behaviour focuses on the meaning given by the individual to those acts. In the terminology of role theory, socialization refers to the process by which people acquire the knowledge, skills and dispositions that make them able members of society. In any professional group selective recruitment, long formal training, written ethical codes and common expectations from similar or related occupations and society at large create fairly uniform behaviour. Joas (2) concludes that "role is the normative expectation of situationally specific meaningful behaviour" (p. 44).

There is, however, considerable scope for variation in how the professional role is perceived and played, when people's personalities are taken into account. One aspect of the relationship between the role and the individual actor is that people play more than one role. A physiotherapist may also be a family member, a parent, or may work in different occupational areas and simultaneously be involved in different aspects of physiotherapy. Playing different roles opens the way to potential conflicts (6).

Organizational structure is a major determinant of social behaviour. Conflicting or impossible demands on people within a structure can lead to role stress. This may generate role strain, feelings of frustration and anxiety. A high level of professional role strain can reduce goal attainment, and the effect of such role strain may lead to impaired quality or reduced quantity as regards care (6).

Hackman & Oldham (4) have developed a measurement tool, the Job Diagnostic Survey (JDS), to use when redesigning work in order to optimize job motivation and satisfaction. This instrument is further developed and described by Epple & Nelander (5). Its basic idea is that certain core job dimensions will provide the individual with experiences, which in turn will lead to consequences in job motivation and satisfaction, individual development, and quality of work. The five core dimensions are: Skill variety, i.e. the degree to which a job requires a variety of differ-
ent activities in carrying out the work. Entirely, i.e. the degree to which a job can be completed from beginning to end with a visible outcome. Importance for others, i.e. the degree to which the job has a substantial impact on the lives or work of other people. Autonomy—Independence in scheduling the work and in determining the procedures to be used in carrying it out. Feedback—direct and clear information about the effectiveness of the performance.

METHOD

Study population

The county of Vasterbotten, northern Sweden, comprising approx. 245,000 inhabitants, was found to be a suitable area for this investigation. All 178 physiotherapists working in that county in March 1984 made up the study population. Although they were not randomly selected, they can be regarded as a typical sample of Swedish physiotherapists. The selection was made from a theoretical as well as a practical point of view. This was the start of a series of investigations concerning physiotherapists and their work.

Instrument and procedure

Each physiotherapist was mailed a questionnaire, including 39 items with both closed and opened-ended questions. (The questionnaire can be obtained from the author, on request.) This article is based only on those closed questions concerning the physiotherapist’s age, sex, family relationships, year of graduation, occupational area, working hours, education, professional role and role conflicts. Furthermore the physiotherapist’s judgments concerning the character of the physiotherapist profession, professional norms, and status of four medical occupations were measured on bipolar, decimal scales with the extreme statements concerning the actual situation at the end of the decade.

The questionnaire was pre-tested in a group of teachers at the School of Physiotherapy in Umeå, who were not involved in the study. This procedure resulted in minor changes in the formulation of the questions.

RESULTS

Population

Questionnaires were received from 163 persons (92%), of whom 76% were women. More than half (51%) of the physiotherapists were between 30 and 39 years old, only 4% were older than 50. Their age range was 49 (21–70) years. The male physiothera- poster were somewhat younger than the females. Mean ages were 37 years for the women and 34 years for the men. The majority (81%) were either married or co-habiting. They had on average 1.3 children. Most physiotherapists (61%) had graduated before 1980. The relative frequencies of male and female physiotherapists concerning age, year of graduation and working hours are displayed in Table I.

A good half of the physiotherapists (58%) worked full time. Most of those working part time worked 30 hours a week. Physiotherapists who graduated in the 1980s, however, worked full time to a significantly greater extent than was formerly commonplace, 86%, vs. 41% previously.

The largest areas of employment, numerically, were in patient-somatic and geriatric care (34%) and primary health care (27%). The relative frequencies of male and female physiotherapists in the various occupational areas are presented in Table II. Almost all 51% were working in IPI care. A large proportion (84%) had participated in further education in physiotherapy, and 40% had earned between 1 and 9 university credits before or after graduat- ing in physiotherapy. The subjects were often of relevance for the physiotherapists profession, apart from physiotherapy, education, psychology, etc. A significantly larger proportion of women (48%) than of men (18%) had gained academic credits.

Two persons reported leave of absence as a reason for not returning the questionnaire, and 2 were on sick leave. The remaining non-respondents contained similar proportions of men and women, amounting to 6%.

Professional characteristics and norms

All respondents were asked to evaluate characteristics of the physiotherapy profession, by using certain bi-polar, decimal scales with the extremes at either end. Fig. 1 shows the physiotherapists’ mean scoring of those characteristics. As the figure shows, the physiotherapists regarded their profession as varied rather than monotonous, creative rather than routine, yet neither unduly well-defined nor very specific in its contents. There were only minor differences between the opinions of men and female physiotherapists.

The more recently graduated physiotherapists regarded physiotherapy as significantly more well-defined than did those who graduated earlier, with a mean of 5.1 (SD 2.0) vs. 4.2 (SD 2.1) on the decimal scale, and also significantly more specific in its objectives, mean 5.3 (SD 2.2) vs. 4.8 (SD 2.2).

Opinions varied when the respondents were asked to estimate whether or not they had attained professional norms during their formal training. On a decimal scale with the extremes ‘no, not at all’, and ‘yes, definitely’, the mean was 4.4 (SD 2.4). Men and women, irrespective of occupational area, scored fairly equally, 4.2 (SD 2.6) vs. 4.4 (SD 2.4). Physiotherapists graduated in the 1980s, however, claimed a significantly better knowledge of the professional norms than those who graduated before 1980, mean 4.9 (SD 2.3) vs. 4.0 (SD 2.4) earlier.

Role expectations

A good one-third (36%) of the physiotherapists deemed physiotherapy to be indispensable to the treatment of patients; the remainder saw it as an important complement to other forms of treatment, or important for certain patient categories. Significantly fewer physiotherapists (27%), however, believed that their head of department regarded physiotherapy as indispensable in their sphere of work, sex, year of graduation, or occupational area gave rise to no significant differences between the physiotherapists’ estimations.

The physiotherapists were asked to rank what they believed were the three foremost expectations of their profession, by physicians, other staff, and patients, using a closed ended question with several reply alternatives. More than half of the physiotherapists (55%) believed the physician first to expect the physiotherapist either to be an active member of the team, or herself to choose whom to treat; alternatively to receive patients referred by the doctor for consultation or assessment. A good third (34%) believed the physi-
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to which a job can be completed from
begins to end with a visible outcome. Importance
for others, i.e. the degree to which the job has a sub-
stantial impact on the lives or work of other people.

AUTonomy—Independence in scheduling the work and
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The largest areas of employment, numerically, were
in-patient somatic/gynaecologic care (34%) and primary
health care (27%). The relative frequencies of male
and female physiotherapists in the various occupa-
tional areas are presented in Table II. Altogether 51
were working in IPF care.

A large proportion (84%) had participated in fur-
ter education in physiotherapy, and 40% had earned
between 1 and 9 university credits before or after

Table I. Frequencies of male and female physiothera-
pists concerning age, year of graduation, and working hours

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>19</td>
<td>23</td>
<td>42</td>
</tr>
<tr>
<td>30-39</td>
<td>50</td>
<td>56</td>
<td>106</td>
</tr>
<tr>
<td>40-49</td>
<td>31</td>
<td>21</td>
<td>52</td>
</tr>
<tr>
<td>50-59</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>60-69</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Year of graduation 1934-1979

<table>
<thead>
<tr>
<th>Year of graduation</th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1934-1949</td>
<td>68</td>
<td>35</td>
<td>103</td>
</tr>
<tr>
<td>1950-1969</td>
<td>31</td>
<td>65</td>
<td>96</td>
</tr>
<tr>
<td>1970-1979</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Working hours

<table>
<thead>
<tr>
<th>Working hours</th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>50</td>
<td>85</td>
<td>135</td>
</tr>
<tr>
<td>Part-time</td>
<td>48</td>
<td>33</td>
<td>81</td>
</tr>
<tr>
<td>No given</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>


Table II. Frequencies of male and female physiothera-
pists in noninstitutionalized (NI) care and institution-
alisied/partially institutionalized (IPF) care

<table>
<thead>
<tr>
<th>Occupational area</th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>NI care</td>
<td>23</td>
<td>39</td>
<td>62</td>
</tr>
<tr>
<td>Primary health care</td>
<td>10</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Occupational health services</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Private practice</td>
<td>2</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Other areaa</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Two areasb</td>
<td>2</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>IPF care</td>
<td>37</td>
<td>26</td>
<td>63</td>
</tr>
<tr>
<td>Inpatient somatic/ gynaecologic care</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Psychiatric care</td>
<td>17</td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td>Pediatric carec</td>
<td>12</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>No area</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 100 100 200

a Preventive care, sports medicine.
b Out of occupational health services, private practice, pri-
mary health care.
c Including care of the mentally retarded.

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ceive patients referred by the doctor for consultation
or assessment. A good third (34%) believed the physi-
Table IV. The physiotherapists' mean scoring with standard deviation (SD) for the status of four medical professions on a bipolar decimal scale with the extremes 'low status' and 'high status'. Differences between the means of men and women are presented in t values and significant differences are indicated with * (n=148).

<table>
<thead>
<tr>
<th>Profession</th>
<th>Women</th>
<th>Mean</th>
<th>SD 1</th>
<th>SD 2</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
</table>
| Physician  |       | 7.2  | 1.6  | 6.0  | 1.6|6.75 | 0.001*
| Physiotherapist |       | 6.7  | 1.7  | 5.6  | 1.6|7.15 | 0.001*
| Medical social worker |       | 6.7  | 1.7  | 5.4  | 1.6|7.25 | 0.001*
| Nurse      |       | 6.5  | 1.7  | 5.4  | 1.6|7.35 | 0.001*

The scales ranked all professions except the nurse significantly lower than did the females. The congruency between the sexes regarding the hierarchy itself was fairly close, however, as was the agreement between physiotherapists in different occupational areas. Physiotherapists in the 1980s gave nurses, medical social workers, and physiotherapists a significantly lower status ranking than did those who graduated earlier (5.4 (SD 1.6), vs. 6.0 (SD 1.7), 5.9 (SD 1.7), vs. 6.7 (SD 1.6), and 6.5 (SD 1.7), vs. 7.1 (SD 1.6), respectively).

A number of respondents (10%) refused to answer the question about the status hierarchy at their place of work. Reasons given for not answering were: 'imimportant question', 'irrelevant issue' and 'badly formulated question'.

**DISCUSSION**

Characteristics of the physiotherapy profession as related to educational background

Physiotherapy was considered a creative and varied profession, but neither unduly well-defined, nor very specific in its objectives. Up to 1978 the central curriculum for the study of physiotherapy, stipulated by the Board of Education together with the Board of Universities and Colleges, did not mention the word 'physiotherapy'. The words 'professional theory' and 'vocational training' were used instead. At that time more than today, the curriculum was oriented towards science and medicine, and reflected the opinion of the physician as the one being responsible for and expert in physiotherapy treatment. This state of affairs may explain why the physiotherapists felt some uncertainty about the definition of their profession, as well as its objectives. The physiotherapists have as a rule received a thorough training. These findings are consistent with findings from other countries (8, 9). However, the physiotherapists seemed to feel that they had a relatively subservient relationship towards professional expertise, i.e. as mere consumers. They took part in courses and university studies, but very few systematically and regularly evaluated their working methods or results. Consequently, few could evolve physiotherapeutic methods or knowledge.

After it became incorporated into university education in 1977, physiotherapy training in Sweden had by law to be based on research. Since then, the curriculum has consistently emphasized the ties between physiotherapy training and research and development work. Physiotherapy also gained a more distinct place in the curriculum, as a subject 'in its own right.

Most of the physiotherapists (72%) seldom or never experienced any conflict between their family and their own professional role. There was, however, a significant difference between females and males in this respect, as there was between mothers and fathers. Of the women, 28% vis-a-vis 10% of the men constantly or often experienced such conflicts. Of the mothers, 36% per vis-a-vis 11% of the fathers significantly and often experienced conflicts between their family and their own professional role. Proportionally fewer of those mothers who graduated in the 1980s reported that they constantly or often experienced such role conflicts (18% vs. 42%, respectively).

Few physiotherapists reported conflicts arising from doctors or nurses concerning occupational matters. Of the respondents, 86% had rarely or never experienced such conflicts with other medical staff, but around 30% in both IPI and NI care often met with conflicting expectations from their patients, and in this way experienced a role conflict.
Table III. Frequencies of the physiotherapists’ hypothetical expectations on the physicians’ first expectations of them and their profession (N=161)

<table>
<thead>
<tr>
<th>Practice Type</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor-dominated practice</td>
<td>73 (45%)</td>
</tr>
<tr>
<td>- physiotherapists to treat patients after referral</td>
<td>20%</td>
</tr>
<tr>
<td>- physiotherapists to give services after consulting the physician</td>
<td>14%</td>
</tr>
<tr>
<td>Independent practice</td>
<td>23 (14%)</td>
</tr>
<tr>
<td>- physicians to contribute their special knowledge in their field of work</td>
<td>31%</td>
</tr>
<tr>
<td>- to teach them to the physician</td>
<td>22%</td>
</tr>
<tr>
<td>- physiotherapists to choose whom to treat</td>
<td>2%</td>
</tr>
<tr>
<td>Other or no expectations</td>
<td>48 (30%)</td>
</tr>
<tr>
<td>Total</td>
<td>161 (100%)</td>
</tr>
</tbody>
</table>

cian foremost to want the physiotherapist to treat patients after referral from, or to treat patients after discussion with the physician. Few (2%) believed that the physician had any other expectation or none at all. The remainder did not make any assumptions. The physiotherapists believed other staff to have rather similar expectations of physiotherapists, which were independent of sex, occupational area, or year of graduation. Table III illustrates the physiotherapists’ hypotheses of physician’s initial expectations of the physiotherapy profession.

The physiotherapists believed that patients first and foremost expected direct improvement to result from treatment (61%), or even cure (22%). Some 9 percent believed that the patients chiefly expected guidance and instructions only, or preventive measures. The remainder had other, more hazy expectations.

Role conflicts
Most of the physiotherapists (72%) seldom or never experienced any conflict between their family and their own professional role. There was, however, a significant difference between females and males in this respect, as there was between mothers and fathers. Of the women, 28% vis-a-vis 10% of the men constantly or often experienced such conflicts. Of the mothers, 36 per cent vis-a-vis 11% of the fathers, constantly or often experienced conflicts between their family and their own professional role. Proportionally fewer of those mothers who graduated in the 1980s reported that they constantly or often experienced such role conflicts (18% vs. 42%, respectively).

Few physiotherapists reported conflicts with other medical staff, but around 30% in both IPI and NI care often met with conflicting expectations from their patients, and in this way experienced a role conflict.

Authority and decision making
The majority (86%) felt that they had satisfactory control over their treatment methods. Each was free to choose and initiate a specific therapeutic method. One physiotherapist in four (25%) always felt able to decide whom to treat, while another 55% were often able to do so. There were no significant differences between those possibilities as regards sex, year of graduation, or occupational area. More than half (53%) of the physiotherapists said that they were always able to decide when to terminate treatment, and 36% were often able to do so. A significantly larger proportion of those working in NI care (95%) than in IPI care (84%) reported that they could always or often decide when to terminate treatment.

Only 14% of the respondents had carried out any kind of systematic evaluation of their treatment of patients during working hours. Three had tried, unsuccessfully. More than half of the physiotherapists (58%) believed they could accomplish such an evaluation, but had not tried, because of time lack, unfamiliarity with research methodology, etc. No significant differences were found as regards sex, year of graduation, or occupational area.

The physiotherapists’ opinion of occupational status
A different aspect of the perceived professional role concerns the physiotherapists’ view of their place in the medical hierarchy. The respondents were asked to indicate their estimation of the status of a physician, a nurse, a medical social worker and a physiotherapist on a decimal scale, with the extremes "low status" and "high status". The physiotherapists ranked the physician highest (mean 8.8, SD 1.5). Most physiotherapists ranked their own profession ahead of the other two para-medical personnel, mean 6.9 (SD 1.7) vs. 5.8 (SD 1.7) for nurses and 6.4 (SD 1.7) for the medical social workers.

Table IV shows male and female physiotherapists’ estimation of the status of the different occupations.

Table IV. The physiotherapists’ mean scoring with standard deviation (SD) of the status of four medical professions on a decimal scale with the extremes ‘low status’ and ‘high status’

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<th>Profession</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>9.0</td>
<td>8.1</td>
</tr>
<tr>
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<td>7.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Medical social worker</td>
<td>6.7</td>
<td>5.6</td>
</tr>
<tr>
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<td>4.4</td>
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After it became incorporated into university education in 1977, physiotherapy training in Sweden had by law to be based on research. Since then, the curriculum has consistently emphasized the ties between physiotherapy training and research and development work. Physiotherapy also gained a more distinct place in the curriculum, as a subject in its own right. Moreover, the physician’s role as the expert in physiotherapy became less entrenched. These changes are in line with developments in other nations as reported by Nordholm & Westbrook (8), Ramsden (10), and Samuels (11). They have led to certain modifications in the physiotherapy curriculum, and may explain why physiotherapists, who graduated in the 1980s, regard physiotherapy as better defined and more distinct in its objectives, than those who graduated earlier.

Autonomy and decision making
Few physiotherapists reported incidents of role conflicts with other occupational groups, concerning physiotherapy, despite reported differences in expectations between patients and physiotherapists. This indicates that physiotherapy seems to be well adjusted to the work organizations and to other medical staff, but not equally well suited to the needs of the patients or the physiotherapists themselves. In view of the extent of the respondents’ regard for physiotherapy as rather diversified, and not very specific in its objectives, one would expect frequent discussions about the physiotherapy treatment between two or more professional personnel. The reported lack of professional conflicts with other medical staff may indicate that the physiotherapists did not challenge the physicians’ authority by making explicit their own physiotherapeutic opinions.
Job dimensions and work outcome

The physiotherapists regarded their profession as a varied and creative occupation. This oblige them to have at their command a wide range of skills and knowledge and the constant responsability to be au fait with the latest forms of therapy in order to fulfil their duties satisfactorily. Usually skill variety is regarded as a positive work factor, promoting job motivation and satisfaction, but it must not become so great that it is felt to be burdensome and hence a drawback (4, 5). The job was also felt to be important for others, and was thus meaningful to the physiotherapists.

The physiotherapists were not completely autonomous in their profession. They were not always able to see their job through from start to finish and show visible and measurable results. The work thus lacked in entirety. They did not bear the ultimate responsibility for the outcome or the evaluation of their efforts. Responsibility for the outcome of one’s work is said to be closely connected with autonomy (4, 5). Few systematically evaluated their treatments and methods and thus few obtained any objective feedback from their work. This must be detrimental to their ability to treat their patients in the best possible way. The physiotherapists did, however, experience a certain degree of autonomy within their field of therapy. This accords with earlier research on physiotherapists and their work (12, 13). The results of this study indicate that it must be essential for physiotherapists to systematically examine the results of their measures, in order to improve the general quality of physiotherapy, and at the same time to increase job motivation and satisfaction. This in turn will most likely result in physiotherapy becoming better defined as a discipline, and more autonomous as a profession.

ACKNOWLEDGEMENT

This study was made possible by financial support from the County Council of Västerbotten, Sweden.

REFERENCES


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SPONTANEOUS SUBARACHNOID HEMORRHAGE

Prognostic Factors for Social Readjustment

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ABSTRACT. Sixty-seven patients surviving spontane-
ous subarachnoid haemorrhage (SAH) have been fol-
lowed up for 2-12 years (mean: 7 years) in order to
determine prognostic factors concerning the long-term
disability in familial and social functioning. A correla-
tion was found between the severity of the neurological
deficit at the time of admission and the degree of
familial and social disability at the end of the observa-
tion period. In addition, the Barthel-Index on dis-
charge was shown to be of prognostic value for read-
justment for social—but not for familial—functioning.
Other clinical variables in the acute stage, however,
including source of bleeding, sex, age, interval between
SAH and admission, level of consciousness, cognitive
functions, as well as initial Hunt and Hess grading and
Glasgow Coma Scale scoring, did not influence the
long-term social prognosis. Furthermore, residual neu-
rological signs, cognitive dysfunctions, and the Glas-
gow Outcome score on discharge were not related to
the extent of social handicap in the long-term outcome.
At the end of the observation period, significant corre-
lations were found between the presence of persisting
medical and cognitive deficits, the level of disability in
ADL, functions and occupational capacity and the de-
cline in familial and social functioning.

Key words: cerebrovascular disease, subarachnoid hemor-
rhage, disability, prognosis, readjustment.

A major contribution to stroke outcome research is the
finding that stroke survivors suffer not only from
purely physical, but also from psychic (ex depression)
and social impairment. This knowledge has helped
health- and human service providers to deal more
appropriately with the entire spectrum of needs of
stroke survivors (15, 16). Feigenson (14) has
argued that along with medical treatment and rehabilitation the patient’s quality of life has to be taken into con-
sideration. There is, however, scant knowledge about
the quality of life in the long-term outcome after SAH.
It is likely that a considerable part of this group
does permanently suffer from physical, cognitive, or
emotional disabilities. There are reports that only 30
to 46% of patients after SAH are completely recover-
ing, and 25 to 75% suffer from emotional or psychol-
ogical disturbances in daily living (6, 20, 31, 39, 40,
43). About 30% showed mild demential syndromes
(11). Concerning the occupational status, only 40 to
70% of the survivors remained totally unaffected, 20
to 25% demonstrated a reduced working capacity at
follow-up, and about 10% considered themselves
completely unable to work (6, 19, 20, 39). 20 to 40% of
the patients after SAH of unknown as well as aneu-
rysmal etiology complained of persistant headache
and fatigue (10, 11, 31). The different results are
certainly due to variations in sample selection and
follow-up time. Due to these findings, the familial
and social readjustment after SAH is an important
goal of rehabilitation.

The present study deals with the long-term familial
and social disability after SAH. The aim of this ret-
rospective investigation was to define the prognostic
value of various clinical criteria in the acute stage as
well as on discharge with regard to the long-term
social readjustment.

PATIENTS AND METHODS

1. Population

The study is based on 72 nonselected patients suffering from
spontaneous subarachnoid hemorrhage, consecutively ad-
mitted to our Department of Neurology. The population did
not include the most severely impaired patients who often
were admitted to the Department of Neurosurgery directly.
The diagnosis was confirmed by computed tomography (CT),
four-ventrual cerebral angiography, and CBF measurements.
If angiography failed to reveal the source of the SAH, four-
ventrual angiography was repeated after an interval of four to
six weeks. Then (3) patients died progressively and 2 pro-
operatively, thus, 67 (35 male, 32 female) survivors remained
for this study.

SAH was in no case caused by recent head injury, blood
clots, intracranial neoplasms, arteritis, or anoxic/is-
chemic. None of the patients had a history of previous neu-
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