Differences between physical therapists in attention paid to patient education

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This article describes differences between physical therapists in terms of the attention they pay to educating patients. The differences between therapists were identified from audiotaped treatment sessions of 1837 patients, recorded by physical therapists in non-institutional care in the Netherlands. Trained judges assessed the quantity and the quality of the education by means of a checklist. Therapists' opinions about patient education and their work setting were also examined as possible factors associated with between-therapist differences.

The results showed that the therapists differed in their opinions about patient compliance, the number of exercise instructions given to their patients, the amount of stress-related counselling and the attention given to patients' demands and perceptions. Those therapists with high expectations about the effects of education compliance paid more attention to the education of their patients. The results also indicated that therapists who spent more time with their patients had a better relationship with them.

INTRODUCTION

Patient education is increasingly embodied in physical therapists' vocational training and job requirements (Dickson and Maxwell, 1985; Huhn and Volski, 1985; Norton, 1986; Saunders and Maxwell, 1988; Schultz, Wellard and Swerissen, 1988; Simonds and Kanters, 1990). In general, physical therapists support these developments (Kok and Bouter, 1990; Leathley, 1988; Lyne, 1986; May, 1983). In private practice in the Netherlands, however, we discovered

large variations in the kinds and amounts of education that patients received (Sluijs, 1991a). In this paper, we describe the extent to which physical therapists differ in educating patients and whether these differences might be explained by therapists' views about patient education. Identification of the factors which influence patient education in therapy would be useful for improving the educational aspect of physical therapy.

The research reported here is part of a large-scale study on patient education in physical therapy. Patient education was defined as 'a planned learning experience using a combination of methods such as teaching, counselling and behaviour modification techniques which influence patients' knowledge and health behavior' (Bartlett, 1985). Counselling was defined as giving the patient insight into the relationship between stress and somatic complaints (the mind-body relation) and giving care and

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support to patients suffering from pain or a handicap.

To assess the ways in which physical therapists in private practice educate their patients during normal therapy, 1837 patients were audiotaped while undergoing treatment. The results in brief were as follows (these are described in detail in Sluijs, 1991b). Three educational subjects in particular were discussed by the therapists:

- teaching patients about their illness (80% of the 1837 treatment sessions);
- offering advice, for example, on how to rest or correct one's posture or locomotion (69%); and
- instructing patients in home exercises (64%).

In contrast, offering patients general health education and counselling them on stress-related problems showed up in only 23% of sessions.

Nearly 40% of the variation in education that patients received could be explained. For example, the patients who received most information included those given exercise therapy instead of massage or other modalities, those whose complaints were more psychosocial in nature, and those who asked more questions. However, 60% of the variance remained unaccounted for. For this reason, differences between physical therapists are of interest.

As well as the kind and quantity of education given to patients, the manner in which it is given is also important. These 'quality' aspects can contribute to the patient's satisfaction with therapy, remembrance and compliance (Bartlett, 1984; van Campen and Sluijs, 1989; DiMatteo and DiNicola, 1982; Dishman, 1988; Haynes, Taylor and Sackett, 1979; Leventhal, Zimmerman and Gutmann, 1984; Mullen, Green and Persinger, 1985). Any information should be linked to the patient's demands and perceptions, and all regimens should be tailored to the patient's situation and daily routines (Hanson, 1986; Jette, 1982; Lafreniere, 1979; Lazare, Eisenthal, Frank and Stoeckle, 1987; Leventhal and Cameron, 1987; Oldridge, 1988; Spelman, 1980). In addition, a good relationship between the therapist and the patient and systematic planning of the treatment (a problem-oriented approach) can contribute to effective education

(Becker, 1985; Bertels et al, 1985; Carter, Inui, Kukull and Haigh, 1982; Croft, 1980; Feinberg, 1988; Green, 1980; Rand, 1978). In our study, we were particularly interested in (1) the attention paid by the therapist to the patient's demands and perceptions, (2) the relationship between the therapist and the patient and (3) whether the therapist took a planned and systematic approach to treatment.

Reasons for physical therapists differing in the amount of education they give their patients were derived from more general assumptions about human behaviour: behaviour will be influenced by perceived benefits and costs of behaviour, while conditions that hinder or facilitate behaviour can contribute to the benefits and costs. For physical therapists, the ensuing benefits may be related to the education of patients.

Educating patients may also prove rewarding for therapists. Those therapists who believe that patient education may result in fewer recurrences of illness and that it contributes to the patient's well-being, may give more information than their colleagues who are more pessimistic about its effects (Deyo, 1982; Ferguson and Bole, 1979; Rosen, Logsdon and Demak, 1984; Wechsler et al, 1983). In the same vein, those therapists who perceive their information-giving as contributing to the patient's adherence to advice will be more willing to educate their patients than therapists who do not. In short, the more a therapist perceives patient education to be beneficial, the more information and advice will be passed on to patients. Also, in the case of psychosocial complaints, more counselling will be offered.

Secondly, the costs connected with education may include the extra time required (Lyne and Phillipson, 1986) and the additional effort that is necessary to translate medical knowledge into a form that is readily comprehensible by the patient. The therapist may also believe that he or she is not equipped with the skills necessary for educating patients (McClellan, 1986). Indeed, anything that is perceived by the therapist as acting as a barrier to the education of patients must be viewed as a 'cost'.

Thirdly, factors in the workplace may or may

not facilitate patient education. Those therapists who spend more time with their patients will obviously have more time to educate them (Waitzkin, 1985). Therapists who are over-worked will not have the time to devote to patient education (Waitzkin, 1985). Finally, in the Netherlands, working in a health centre may facilitate patient education because of the emphasis that is placed on preventing illness (Bertels et al, 1985).

Research questions

1. How does the kind, quality and quantity of patient education offered by therapists vary?
2. Can such differences be explained by (a) the perceived costs and benefits of such education and (b) the conditions that facilitate patient education?

The variables that were taken into account in the study are shown in Fig. 1.

METHODS

Design and materials

Of the 8986 physical therapists working in pri-

vate practice (defined as non-institutional care) in the Netherlands, a random sample of 300 was used. They were each asked, first by letter and then by a telephone call, to complete a questionnaire concerned with their views regarding patient education and to make 25 audio recordings of treatment sessions with patients. To reduce bias in patient selection, each therapist was asked to take the first 25 patients he or she treated in a particular week. Those patients seen more than once a week were only recorded once. No independent observers were present during the recording sessions. Because the tape-recorder was always used in the same room, elements of treatment applied elsewhere were not recorded.

Measuring the kind, quality and quantity of education

The audiotapes were judged by three observers (a psychologist, a physical therapist and a hygienist). The tapes were randomly distributed between them. The kind, quality and quantity of education was assessed by means of a checklist (Sluijs, 1991a; see Appendix 1). The observers spent 3 weeks acquainting themselves with the items on the checklist (these are described in detail by Sluijs, 1988). The checklist included five types of education:

Fig. 1 Study variables.

- teaching and informing the patient about the illness;
- instructing the patient to undertake home exercises;
- giving advice and information about illness behaviour;
- giving general health education;
- counselling the patient on stress-related problems.

The quantity of education was assessed by counting the number of meaningful 'informative remarks' made by the therapist, such as 'Your complaints are not caused by surgical treatment; over-strained muscles are causing the pain' (this example was in fact counted as two 'informative remarks'). In the same way, all instances of counselling were recorded (e.g. exploring, listening, supporting, explaining).

Three aspects of quality were measured:

1. *The patient's perceptions.* All occasions on which the therapist asked the patient to speak of his or her feelings, demands and perceptions were recorded.
2. *The relationship between the therapist and the patient.* This was scored by means of a 5-item scale ($\alpha=0.85$; see Appendix 2). The items included: giving positive feedback; showing concern about pain; showing interest in the patient; showing involvement in the treatment; following a patient-centred approach.
3. *A problem-oriented approach.* A planned and systematic approach to treatment was measured by counting the number of times therapists informed their patients about their treatment plan, their findings and their evaluation of treatment (see Appendix 1).

Measuring perceived benefits and costs

The perceived benefits and costs were measured via a questionnaire.

1. *The possibility of prevention.* The therapist's views about preventing symptoms recurring were measured using a 5-item scale

($\alpha=0.71$; see Appendix 3). The items on the scale asked to what extent the recurrence of eight commonly treated illnesses could be prevented. The mean score on the items was used in the analyses. The scores ranged from 1 ('prevention is impossible') to 5 ('prevention is definitely possible').

2. *Perceived effects.* The perceived effects of patient education were measured by means of a 12-item scale ($\alpha=0.75$; see Appendix 5). The therapists were asked whether they thought education would contribute to: patient participation; the prevention of symptoms; the patient's independence of health care; diminishing costs of health care; etc. The scores ranged from 1 ('education does not contribute to the effects mentioned') to 5 ('education contributes greatly to the effects mentioned').
3. *Patient compliance.* We asked each therapist: 'How many of your patients do you expect to comply with the prescribed exercises?' Two estimates were requested: one for short-term compliance and one for long-term compliance. Short-time compliance was defined as 2 weeks during the treatment phase; long-term compliance was defined as 1 year after the treatment phase. These estimates were expressed as a percentage, indicating how many of the patients were expected to comply with the exercises.

The perceived barriers were identified by means of an open-ended question: 'Do you encounter problems when educating patients and, if so, what kinds of problems do you encounter?' Four main kinds of problem were noted: (1) communications difficulties, (2) the patient's lack of interest or knowledge, (3) the shortage of time and materials and (4) educational problems arising when patients' complaints are vague or psychosocial in nature (Sluijs and Kuijper, 1990).

We assumed that physical therapists would counsel patients when they attributed considerable psychosocial influences to physical complaints. Hence a scale was applied to measure the degree of psychosocial influence in four commonly treated illnesses ($\alpha=0.81$; see

Appendix 4). The scale values ranged from 1 ('no psychosocial influence') to 5 ('very great psychosocial influence'). In addition, we asked whether or not the therapists considered it their duty to counsel patients.

Measuring factors in the workplace

The amount of time the therapist spent with each of his or her patients was recorded automatically. From this total time we subtracted all interruptions such as telephone calls, etc. Therefore, in all of our analyses, only that time is used in which the therapist and patient were in direct contact.

Each therapist recorded in the questionnaire the number of hours worked by him or her during the week in question. This was broken down into five categories, ranging from 'worked fewer than 3 days' to 'worked 6 or more days'. The therapists also recorded whether they worked in private practice or in a health centre.

Analysis

The level of analysis was the physical therapist ($n=84$). The independent variables stemmed from the questionnaires, the dependent variables from the audio recordings. As a consequence, the scores from the audiotapes were aggregated to the physical therapist level. This means that for every dependent variable, an average score for each physical therapist was computed from all of the sessions recorded by him or her.

The relationship between the therapists' views and the education given by them to patients (as recorded on the audiotapes) is expressed as correlation coefficients. A multiple-regression analysis was conducted to identify the most powerful explanatory variables.

RESULTS

Response rates

Of the 300 physical therapists contacted, 222 (74%) returned their questionnaires, 84 (28%)

of whom supplied audio recordings. The low response rate was put down to the request for audiotapes, something that is uncommon for research purposes in physical therapy.

A non-response analysis showed no differences between participants and non-participants as regards age, working environment and urban/rural location, or their views regarding patient education and compliance. However, there were two significant differences:

1. Of the male therapists contacted ($n=170$), 63 (37%) sent in audio recordings; in contrast, of the 130 female therapists contacted, only 21 (16%) did so. The reasons for this difference are still not clear.
2. Those therapists who participated fully by sending in audio recordings reported encountering more problems educating patients than those who did not.

Of the 1931 patients who were asked to participate, 95% gave their informed consent for the treatment sessions to be recorded. In total, 1837 recordings were made (a mean of 22 per therapist). The most frequent patient complaints were back pain (27%), neck and shoulder pain (17%), trauma and post-operative pain (13%), systemic disease (5%), multiple pathology (5%) and others (33%).

Differences between therapists

The mean number of 'meaningful remarks' made by the therapists and the mean 'quality' scores are shown in Table 1. The final column shows the differences between therapists expressed as a coefficient of variation (i.e. the standard deviation divided by the mean). The greater the coefficient of variation, the greater the difference between therapists.

On average, the therapists made 20 educational remarks per session: the 'least' educating therapist made 4 remarks per session, whereas the 'most' educating therapist made 39. Most remarks concerned instructions regarding home exercises. The greatest variation between therapists was seen in the amount of time devoted to counselling for stress-related problems, as indi-

Table 1
Mean number of educational remarks per session and mean scores on the quality aspects, all calculated per physical therapist ($n=84$)

	Mean	Range	Coefficient of variation
<i>Number of educational remarks</i>			
Total educational remarks (per session)	20.0	4.5–39.5	0.36
Teaching about illness	5.4	1.4–11.3	0.43
Instructions about home exercises	6.1	0.0–21.0	0.60
Advice on illness behaviour	4.7	0.5–16.2	0.56
General health education	1.1	0.0–3.4	0.64
Counselling on stress-related problems	2.7	0.0–10.2	0.74
<i>Quality aspects of education</i>			
Patient's perceptions: mean number of questions asked per session	0.3	0.0–1.9	1.00
Relationship: score on relationship scale (1–4)	2.4	1.5–3.0	0.12
Planned approach: mean number of remarks about the treatment approach	10.1	2.5–20.6	0.38

Table 2
Correlation coefficients between the dependent variables ($n=84$)

	Total education (1)	Teaching (2)	Exercises (3)	Advice (4)	Health education (5)	Counselling (6)	Perceptions (7)	Relationship (8)
1. Total education	1.00							
2. Teaching	0.64 ^a	1.00						
3. Exercises	0.71 ^a	0.14	1.00					
4. Advice	0.82 ^a	0.55 ^a	0.42 ^a	1.00				
5. Health education	0.35 ^a	0.34 ^a	0.03	0.26 ^a	1.00			
6. Counselling	0.38 ^a	0.06	0.02	0.16	0.12	1.00		
7. Perceptions	0.29 ^a	0.15	0.27 ^a	0.22	-0.15	0.16	1.00	
8. Relationship	0.64 ^a	0.43 ^a	0.58 ^a	0.41 ^a	0.11	0.20	0.48 ^a	1.00
9. Planning	0.72 ^a	0.70 ^a	0.56 ^a	0.50 ^a	0.13	0.10	0.49 ^a	0.72 ^a

^a $P < 0.01$.

cated by the coefficient of variation. Some therapists paid great attention to the psychosocial aspects of the complaints and tried to explain how distress can influence physical complaints, whereas others seemed to disregard these. The therapists also differed substantially in the amount of exercise instructions that they gave and in the amount of advice offered. Some therapists attempted to correct patients' posture, daily activities, etc., on a regular basis, whereas others did so only occasionally.

With regard to quality, there was little variation seen in the relationship between the therapist and his or her patients. The therapists also differed little as regards the information that they gave their patients about their treatment

plans. However, there was great variation in how therapists viewed their patients' perceptions. Though in only 19% of the sessions overall were such questions asked, some therapists consulted their patients regularly whereas others did not consult at all.

The total amount of patient education, being composed of all the educational activities, is of course strongly related to each of them (see Table 2). What is less self-evident is the finding that the quality aspects of education are strongly related to the overall level of education. This means that the physical therapists who inform, instruct and advise their patients most are also those who follow a systematic plan of treatment and have a good relationship with their patients (as judged by

Table 3
Perceived 'benefits' of education ($n=84$)

	Possible values	Mean score	Range	Coefficient of variation
Preventative possibilities (=score on scale)	1-5	3.3	2.1-5.0	0.17
Perceived effects of education (=score on scale)	1-5	3.2	2.2-4.3	0.13
Estimated compliance:				
● short-term compliance (%)	0-100	63.0%	0-90%	0.29
● long-term compliance (%)	0-100	21.0%	0-50%	0.59

the independent observers). These two quality aspects appear to be strongly interrelated.

The correlations between the quantitative aspects of education show that those therapists who instruct their patients in home exercises on a regular basis are also those who often offer advice. It is interesting to note that 'teaching about the illness' is, in particular, related to giving advice and not to exercise instructions. Counselling the patient is the only activity that is neither related to the other educational activities nor to the quality aspects of education.

Benefits and costs of education and factors relating to the workplace

The physical therapists' views regarding patient education, as measured by questionnaire, are shown in Table 3. The possible values of the scales are noted in the first column in the table; a low value indicates a more negative attitude, whereas a high value indicates a more positive attitude. The minimum score of 2.1 on the scale 'preventative possibilities' indicates that the most pessimistic therapist thinks it most unlikely that the recurrence of commonly treated illnesses such as back pain, frozen shoulder or ankle distortion can be prevented, whereas a score of 5 indicates that another therapist thinks it very likely.

The therapists' estimates of patient compliance with exercise regimens were striking. One therapist expected none of his patients to comply with short-term exercise regimens, whereas 22 thought 80-90% would comply. The coefficient of variation indicated that the therapists differed most regarding long-term compliance: 28 estimated 10% of their patients would comply,

whereas 5 expected 50% to comply (defined as 1 year after treatment). The median score for short-term compliance was 70% and for long-term compliance 20%, indicating that the therapists are clearly aware that long-term compliance is far more difficult to attain than short-term compliance.

The problems encountered by the therapists when educating their patients are described in Table 4. Forty-four therapists reported encountering more than one problem (mean = 2.4). A total of 68% of the therapists reported encountering problems, most of which were due to communications difficulties. For example, many therapists find it difficult to put medical terminology into language that is readily understandable by patients; find it difficult to adjust regimens to patients' circumstances; and find it difficult to motivate patients to change their habits or lifestyles.

The therapists also reported difficulties that were directly attributable to the patient, e.g. their lack of knowledge, their lack of interest in education, their different views on health and illness, etc. Less frequently, a lack of time and

Table 4
Number of therapists perceiving problems in educating patients and kind of problems mentioned ($n=84$)

Therapists perceiving no problems	27 (32%)
Therapists perceiving problems	57 (68%)
Kind of problems:	
● communication problems	46 (34%)
● problems attributed to the patients	42 (31%)
● lack of time and materials	22 (17%)
● vague or psychosocial complaints	15 (11%)
● other problems	9 (7%)
Total number of problems	134 (100%)

'educational materials' was blamed for poor patient education. Finally, some therapists found it difficult to educate patients with vague or psychosocial complaints. A more detailed description of these problems can be found in Sluijs and Kuijper (1990).

The three factors relating to the workplace display the following distribution. The mean ($\pm$ SD) length of each session was 24.4 ± 4.2 min. Note that these figures take into account all interruptions. The range (12.2–32.3 min) indicates a large variation in the amount of time that the therapists spent with their patients. Of the therapists, 58% worked a full working week or more, whereas 42% worked less than a full working week. In total, 94% worked in private practice and 6% worked in a health centre.

It would appear that those therapists who perceive education to have more beneficial effects are more optimistic about the preventative possibilities of treatment and long-term compliance (see Table 5). A rather strong relation exists between short- and long-term compliance. However, the therapists' views regarding compliance seem to be unrelated to the problems they encounter when educating their patients. In general, the therapists' views about the costs and benefits of education are weakly related to the workplace factors. It would appear that the therapists in private practice work more hours than their colleagues in health centres. In general, the interrelations between the workplace factors were found to be rather weak.

Finally, we present the therapists' views about counselling. Forty-six percent considered counselling as being 'subsidiary to physical therapy' and 51% considered counselling to be an 'essential part of physical therapy treatment'. Those therapists holding the latter view also perceived psychosocial influences as being more important in somatic illnesses, as measured by the 'psychosocial influence scale': the correlation between 'counselling tasks' and 'psychosocial influence' was 0.26 ($P < 0.01$).

The quantity and quality of education related to the benefits and costs of education

The relationship between the therapists' perceptions of the benefits and costs of education and the education that they actually gave their patients is shown in Table 6, expressed as Pearson correlation coefficients (only those that were significant are shown). The perceived benefits of education appeared to be related to the quality and quantity of education. Those therapists who held the view that their education of patients contributes to 'patients becoming more interested in treatment', 'patients becoming more satisfied', 'patients recovering from illness more quickly', etc., gave their patients both more and better education than those therapists who did not hold the same view. The therapists who were more optimistic about their patients' compliance

Table 5
Correlation coefficients between benefit, costs and workplace factors ($n=84$)

	Preventative possibilities (1)	Perceived effects (2)	Short-term compliance (3a)	Long-term compliance (3b)	Problems/barriers (4)	Session time (5)	Working hours (6)
1. Preventative possibilities	1.00						
2. Perceived effects	0.33 ^b	1.00					
3a. Short-term compliance	0.00	0.07	1.00				
3b. Long-term compliance	0.17	0.30 ^b	0.50 ^b	1.00			
4. Problems/barriers	0.02	0.17	-0.10	0.05	1.00		
5. Session time	0.04	0.00	-0.03	-0.07	0.16	1.00	
6. Working hours	-0.03	-0.05	0.05	-0.03	-0.10	-0.18	1.00
7. Workplace	0.07	0.18 ^a	-0.12	0.10	0.15	0.05	-0.21 ^a

^a $P < 0.05$; ^b $P < 0.01$.

gave them more instruction in home exercises and tended to follow a more 'problem-oriented' approach to treatment. In addition, those therapists who held the view that their patients generally did comply with the exercises they were prescribed, appeared to have a better relationship with their patients, as rated by the three independent observers.

The problems that the therapists encountered were not related to the number of exercise instructions. Instead, they were related to teaching and advising, but in the reverse direction to that which we had anticipated: it would appear that the therapists who did not encounter any problems educated their patients less than those therapists who did encounter problems. Taking a closer look, it would appear that the kinds of problems were of importance. For example, those therapists who said that they lacked sufficient time or materials did educate their patients less, whereas the therapists who experienced communications problems actually tried to educate their patients more. Perhaps upon educating their patients to a greater extent, therapists uncover further problems. We will return to this in the Discussion.

As regards the work situation, the length of treatment sessions is significantly related to the quantity and quality of education. Those therapists who spend more time with their patients are inclined to give them more information and

advice, they are more likely to follow a systematic approach to treatment and they usually have a better relationship with their patients. The length of the working week is negatively related to the quality aspects of patient education. Overworked practitioners are less likely to pay attention to their patients' demands and perceptions, and are judged to have poorer relationships with them. Finally, those therapists who worked in a health centre paid more attention to the quality aspects of their patient education.

As would be expected, those therapists who considered counselling an essential part of physical therapy gave their patients more counselling than those therapists who viewed counselling in not such a good light (correlation=0.21, $P<0.05$).

To discover which of the variables carried most weight, a multiple-regression analysis was undertaken (see Table 7). However, work setting was omitted as only five therapists in the whole sample worked in a health centre. The results were in line with earlier studies. The perceived effects of education and the amount of time spent with patients during treatment sessions had the main predictive value in explaining differences between therapists. The amount of instruction in home exercises can be explained in part by therapists' expectations of their patients' compliance, and therapists who spend more time with their patients have a better relationship

Table 6
Perceived benefits and costs of education related to the kind, amount and quality of education
(correlation coefficients; $n=84$)

	Preventative possibilities	Perceived effects	Short-term compliance	Long-term compliance	Problems/barriers	Session time	Working hours	Workplace
<i>Amount of education</i>								
Total education	—	0.26 ^b	0.20 ^a	—	0.25 ^a	0.27 ^b	—	—
Teaching on illness	—	0.21 ^a	—	—	0.26 ^b	0.30 ^b	—	0.18 ^a
Exercise instructions	—	—	0.34 ^b	0.21 ^a	—	—	—	—
Giving advice	—	0.22 ^a	—	—	0.23 ^a	0.26 ^b	—	—
Health education	—	—	—	—	—	—	—	—
Counselling	—	0.29 ^b	—	—	—	—	—	—
<i>Quality aspects</i>								
Asking about patient perceptions	—	0.19 ^a	—	—	—	—	-0.26 ^b	0.35 ^b
Relationships with patients	—	—	0.19 ^a	—	0.23 ^a	0.35 ^b	-0.21 ^a	—
Planned approach	—	0.19 ^a	0.20 ^a	—	—	0.20 ^a	—	0.31 ^b

^a $P<0.05$; ^b $P<0.01$.

Table 7
Multiple-regression analyses relating dependent and independent variables expressed in betas ($n=84$)

	Preventative possibilities	Perceived effects	Short-term compliance	Long-term compliance	Problems/barriers	Session time	Working hours	<i>R</i>	<i>R</i> ²
<i>Amount of education</i>									
Total education	—	0.26	—	—	—	0.27	—	0.38	0.12
Teaching on illness	—	0.21	—	—	—	0.31	—	0.37	0.12
Exercise instructions	—	—	0.34	—	—	—	—	0.34	0.10
Giving advice	—	0.22	—	—	—	0.27	—	0.35	0.10
Health education	—	—	—	—	—	—	—	—	—
Counselling	—	0.29	—	—	—	—	—	0.29	0.07
<i>Quality aspects</i>									
Asking about patient perceptions	—	—	—	—	—	—	-0.27	0.27	0.06
Relationships with patients	—	—	—	—	—	0.35	—	0.35	0.11
Planned approach	—	—	—	—	—	—	—	—	—

Note: only significant beta's are given ($P < 0.05$).

with them. It should be noted, however, that the therapists' views regarding the recurrence of symptoms were unrelated to the amount of education that they gave their patients.

The therapists' sex and age – although not included in the model – were related to the type and amount of education that they gave their patients. Female therapists counselled their patients more often than male therapists ($P < 0.05$). However, female therapists' opinions regarding 'counselling tasks' did not differ significantly from those of their male colleagues. The only difference that was noted between 'younger' and 'older' therapists was that the younger ones tended to give their patients less information about general health education ($P < 0.05$). The implications of these findings will now be discussed.

DISCUSSION

The aims of this study were (1) to describe the differences between physical therapists in the attention they pay to educational activities and (2) to explain these differences in terms of the views they hold regarding patient education.

Individual differences between therapists were found for almost all aspects of patient education: some therapists offered a lot of infor-

mation and advice, whereas others did not; some counselled their patients about stress-related problems, whereas others felt that it was not their task to give them counselling; some frequently asked their patients to express their perceptions of treatment, whereas others never did.

It was interesting to note that the quality aspects of patient education were strongly related to the quantity of education. While the cause for this is still unknown, it may be that informing patients of itself provides for a better therapeutic relationship. Another possible explanation may be that some therapists pay more attention to all of the aspects of patient education because they set great value by influencing patients' behaviour. Perhaps those who do not value behaviour modification attach more value to the technical aspects of treatment. This is a question for future research studies.

The differences that were noted between therapists were not surprising. Earlier research at the Netherlands Institute of Primary Health Care revealed that therapists differ as regards many aspects of their work (Curfs and Kerssens, in press). This diversity may in part be because therapists are often confronted with diffuse complaints without a clear diagnosis. However, the lack of standards and protocols in physical therapy gives them considerable flexibility when treating their patients. The development of pro-

protocols is necessary for more uniformity in physical therapy and patient education should be integrated into such protocols. Not only are protocols important for future research, they can be valuable instruments for peer review activities and quality assessment during daily practice.

We hypothesised that the difference in patient education could be explained by the costs and benefits perceived by therapists in educating their patients. Part of this hypothesis was confirmed: those therapists who held the view that patient education has many benefits offered more advice and information to their patients than those therapists who did not hold the same view. However, this does not mean that the giving of more education is caused by the therapists' views, as is assumed by attribution theory. Our study, being correlational in nature, does not permit such a conclusion. Perhaps the therapists in our sample simply adjusted their views to make them consistent with their behaviour, as would be predicted by the cognitive dissonance theory. From a theoretical point of view, this remains an interesting question for future research.

Therapists' differing expectations of patient compliance may be of great importance. Why do some therapists see their patients as non-compliant, whereas others view them as good compliers? Are their expectations based on reality or are they simply their own personal views? These questions, besides being somewhat puzzling, are relevant to practice. If a therapist views his or her patients as non-compliant, he or she is more likely to instruct them less in home exercises. One therapist told us that because he considered that most of his patients would not maintain their exercise programmes, he rarely instructed them in home exercises. Because much is still unknown as regards patient compliance in physical therapy, specific research should be undertaken. It seems particularly worthwhile to discover feasible and effective methods for enhancing patients' compliance in physical therapy programmes. As things stand currently, tailoring the exercises to a given patient's situation and integrating them into the patient's daily activities seems to be one of the most promising ways forward.

The time spent by therapists with their

patients was significantly related to the quality of the relationship with them and to the amount of information and advice that they gave them. Although spending more time with a patient provides more opportunities for education, the reverse may also be true: offering more advice and information to a patient implies spending more time with that patient. Of interest was the finding that patient counselling was unrelated to the length of the treatment session. This is in stark contrast with the situation in medical practice, where the time allotted for consultation is generally strongly related to counselling the patient. One explanation for this may be that the time used by therapists for massage may also be used to discuss stress-related problems. Earlier research findings suggest such a relationship (Sluijs, 1991b).

Those therapists experiencing problems educating their patients actually gave them more information and advice than therapists not experiencing such problems, the opposite to that which we had expected. Two explanations are offered for this. First, it may be that the problems encountered by therapists may be viewed as 'challenges' rather than 'costs', thus making them more determined to educate their patients. Secondly, it would seem that paying more attention to patient education throws up further difficulties. This is in part supported by the kinds of communication problems mentioned by the therapists: 'It is difficult to explain medical terminology in everyday layman's terms'; 'It is difficult to tailor advice to the patient's situation'; 'If you give a lot of information to a patient, she will only forget half of it'. Such remarks indicate therapists' awareness of the extra skills and effort required to educate patients. In practice, it is important that specific educational skills are taught to therapists during vocational training or in follow-up courses. The skills taught should correspond to the practical problems experienced by therapists; in fact, they should be tailored to the therapists' needs.

Finally, one of the findings in this study deserves further attention. Although general health education was not discussed a great deal, the older therapists tended to bring it up with their patients more often than the younger ones.

Perhaps this is because older individuals are more aware of the risks of an unhealthy lifestyle. On the other hand, it may be because younger therapists are less inclined to interfere in the lives of their patients. It may be that younger therapists take the view that a person's lifestyle is their own affair. Either way, we don't know. However, such a tendency would undermine the extension of the therapist's role in health education. Although physical treatment is considered an optimal setting for health education, the tasks required in the field of health education are as yet unclear.

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Appendices

Appendix 1

Checklist for educational activities

1. *Teaching and providing information about illness*
 - Diagnosis and complaints
 - The cause of the illness
 - The prognosis
 - Illustrative material to clarify information
 - Miscellaneous or remaining topics
2. *Instructions for home exercises*
 - Explaining home exercises
 - Frequency of sessions per day
 - Exercise instructions
 - The build-up of the exercise programme
 - The build-up of each exercise
 - Exercise leaflet
 - Instructions written by the therapist
 - Integrating exercises to daily activities
 - Motivating the patient to comply
 - Monitoring the patient's compliance
 - Resolving compliance problems
 - Miscellaneous or remaining topics
3. *Advice and information*
 - Taking rest
 - Correct posture and movement
 - Work, sports or hobbies
 - Daily activities
 - Self-care and domestic medicines
 - Adaptations
 - Aids and appliances
 - Health services
 - Family physicians or specialists
 - Motivating the patient to comply
 - Monitoring the patient's compliance
 - Resolving compliance problems
 - Miscellaneous or remaining topics
4. *General health education*
 - Sports or exercise
 - Weight control or nutrition
 - Smoking and alcohol- or drug-taking
5. *Counseling on stress-related problems*
 - Explaining mind-body relations
 - Exploring stress-related problems
 - Supportive care with handicaps
 - Supportive care with personal distress
- A. *Therapist-patient relationship*
 - Reinforcing the patient's performance
 - Showing concern for pain
 - Showing interest in the patient
 - Showing involvement in treatment
 - Facilitating patient participation
- B. *Planned and systematic approach*
 - Explaining treatment session
 - Explaining follow-up treatment(s)
 - Explaining duration of treatment
 - Communicating findings from history-taking
 - Communicating findings of the physical examination(s)
 - Communicating findings of therapy
 - Explaining aim of physical examination
 - Explaining aim of exercise therapy
 - Explaining aim of massage
 - Explaining aim of a physical agent
 - Explaining possible side-effects of treatment
 - Evaluating the course of treatment
- C. *Patient's demands and perceptions*
 - Exploring demands and expectations
 - Exploring ideas and perceptions
 - Exploring self-care activities
 - Checking the patient's understanding

Appendix 2

Therapist-patient relationships (n=1837)

Scale value	Minimum 1	2	3	Maximum 4
1. Reinforcing patient's performance	70.0	15.3	9.6	5.1
2. Showing concern for pains	59.4	26.2	12.0	2.3
3. Showing interest in the patient	0.3	8.2	43.3	48.2
4. Showing involvement in treatment	1.7	12.9	35.1	50.2
5. Facilitating patient participation	19.0	36.7	37.5	6.9

Alpha=0.85.

Appendix 3

Preventative possibilities

Complaints in connection with:	Avoidance of the complaints requiring treatment again is:					Missing
	Not likely	Somewhat likely	Reasonably likely	Quite likely	Highly likely	
Frozen shoulder	10.8	20.7	23.4	32.0	10.8	2.3
Non-fixation scoliosis	3.2	21.2	30.6	34.7	7.2	3.2
Tennis elbow	5.4	19.4	32.9	31.1	9.5	1.8
Chronic non-specific lung disease ^a	32.9	43.2	16.2	3.6	1.8	2.3
Arthrosis of the knee ^a	18.5	51.4	23.9	4.1	0.9	1.4
Hyperventilation	3.2	13.1	24.3	41.0	17.1	1.4
Lumbago	3.6	19.4	35.6	32.4	7.7	1.4
Headache	4.1	36.9	33.3	16.7	5.0	4.1
Sprained ankle	8.1	16.2	18.9	27.0	27.0	2.7
M. Scheuermann ^b	22.5	30.6	25.7	14.0	5.0	2.3
Osteoporosis ^a	44.1	35.6	14.4	3.2	0.9	1.8
Stress incontinence	9.0	29.7	23.4	22.5	6.8	8.6

^aItem deleted for skewness; ^bitem deleted to raise alpha-value. Remaining 8 items: alpha=0.71.

Appendix 4

Psychosocial influence

Complaints in connection with:	Effects of psychosocial factors					Missing
	No effect at all	Little effect	Neither little nor much effect	Much effect	Very much effect	
Frozen shoulder	14.9	42.8	21.6	14.9	3.2	2.7
Non-fixation scoliosis	18.5	39.2	23.9	13.1	2.7	2.7
Tennis elbow	22.5	41.0	23.9	7.7	2.3	2.7
Chronic non-specific lung disease ^b	1.4	10.8	14.4	58.1	12.6	2.7
Arthrosis of the knee	25.7	40.1	23.4	6.8	1.4	2.7
Hyperventilation ^a	—	0.5	1.8	35.1	60.8	1.8
Lumbago ^a	1.8	6.8	37.8	40.5	11.3	1.8
Headache ^a	—	0.9	10.8	56.3	29.7	2.3
Sprained ankle ^a	46.4	36.9	12.6	1.4	0.5	2.3
M. Scheuermann ^a	37.8	33.8	18.5	6.3	1.4	2.3
Osteoporosis ^a	40.5	35.6	14.0	5.9	1.4	2.7
Stress incontinence ^a	2.7	5.4	11.3	41.0	34.7	5.0

^aItem deleted for skewness; ^bitem deleted to raise alpha-value. Remaining 4 items: alpha=0.81.

Appendix 5
Perceived effects of education

	Scale					Missing
	Definitely don't agree	Don't agree	Partly agree, partly don't agree	Agree	Agree completely	
The information that I give contributes towards patients becoming more independent	1.8	13.5	25.7	49.5	9.5	0.5
My information ensures that even uninterested passive patients proceed to cooperate actively in the treatment	—	15.8	42.3	32.4	9.0	0.5
I consider that I possess sufficient skills to give good information ^a	—	3.2	29.7	57.2	9.5	0.5
Through the information that I give patients are much sooner free of complaints	0.9	12.2	51.4	29.7	5.0	0.9
My information has a considerable effect on the extent to which patients feel responsible for their own health ^a	—	4.5	34.2	50.5	10.4	0.5
If I devote considerable attention to information, I have more pleasure in my work ^a	0.9	5.9	20.3	51.4	20.3	1.4
Whether patients faithfully do their home exercises depends above all on my information	0.9	15.8	44.1	29.7	8.6	0.9
Through the information that I give patients can make better decisions about their own health ^a	0.9	6.3	32.4	53.6	6.3	0.5
The quality of my work as a physical therapist is determined above all by the information that I give	3.6	29.3	46.4	16.7	3.6	0.5
As a result of good information I rarely see patients again with the same complaints	2.7	44.1	41.9	9.9	0.5	0.9
Giving information is for me a way of showing the patient that I take him/her seriously	2.7	20.7	23.0	45.0	7.7	0.9
Giving good information costs me considerable energy ^b	5.4	50.5	19.8	21.2	2.3	0.9
Patients nowadays expect that I give extensive information	2.3	32.9	46.4	16.7	0.9	0.9
If I devote little attention to information I do not consider myself a good physical therapist	1.4	11.3	17.6	56.3	12.6	0.9
Through information it is often possible to change the behaviour of patients permanently	1.8	14.9	45.0	31.1	6.3	0.9
I find it a disadvantage that giving extensive information is at the expense of treatment time ^b	10.8	59.9	12.2	14.0	2.3	0.9
I consider that I am <i>not</i> entitled to concern myself with the unhealthy lifestyles of patients ^b	9.0	38.7	40.5	7.7	2.7	1.4
Through the information that I give I contribute to cost-cutting in health care	1.4	9.0	29.7	49.5	8.1	2.3
The satisfaction of patients does not depend on the information that I give	1.4	22.5	44.6	27.5	3.2	0.9

^aItem deleted for skewness; ^bitem deleted to raise alpha-value. Remaining 12 items: alpha=0.75.