Scand J Rehab Med 16: 71–76, 1984

THE FINNISH PAIN QUESTIONNAIRE: COMPARISON OF DESCRIPTIONS OF PAIN IN CORONARY HEART DISEASE AND LOW BACK PAIN

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ABSTRACT. The verbal description of pain is the method most commonly used to study pain symptoms. The Finnish Pain Questionnaire has not been standardized yet. It is impossible to know which descriptors are typical of certain states of pain and which descriptors differentiate states of pain from each other. The aims of this study was to clarify if it is possible to differentiate pain descriptions for coronary heart disease from descriptions for low back pain using the Finnish Pain Questionnaire and to compare the use of pain descriptors and subclasses of descriptors. The patients comprised 57 male patients with coronary heart disease (mean age 52.9 years) and 60 female patients with low back pain (mean age 52.0 years). The results indicated that different descriptors are important in descriptions of coronary heart disease pain and low back pain. The differences of frequencies in the use of descriptors were statistically significant. There were also significant differences in the use of descriptors from different subclasses of the sensory dimension, according to the mechanisms of pain. The results indicated that it is possible to find out which descriptors are the most important for different states of pain and that the Finnish Pain Questionnaire can be a valid method for describing different states of pain.

Key words: Angina pectoris, coronary heart disease, low back pain, pain

In clinical practice the verbal description of pain symptoms is the most common way to evaluate patients' diseases and diagnoses. Clinicians have traditionally recognized the diagnostic value in the quality of pain described by the patient (14).

Common word usage has been found that does not depend on differences in the patients' sex, regional distribution, and social background (7, 11, 12, 20). Dubuisson & Melzack (7) concluded that there are appreciable and quantifiable differences in verbal reactions to various types of pain; patients with the same disease or pain syndrome tend to use remarkably similar words to express what they feel. It is assumed that certain diseases or pain mechanisms may elicit unique descriptors. Lists of descriptors have been compiled for different pain states and diseases in English, using the McGill Pain Questionnaire (MPQ) (1, 5, 9, 13, 15, 19). Attempts have been made to evaluate the diagnostic values of these lists (2, 7, 14, 18, 22). Different methods have been applied to evaluate the psychometric properties of descriptors and the MPQ. The majority of these studies have investigated changes in the choices of descriptors made by patients after the administration of analgesic intervention (4, 8, 17). Factor analyses of patients' choices of descriptors have been done (5, 13, 21, 22). In Finland, also, the pain descriptors used by patients with coronary heart disease have been listed (23), but the frequencies of descriptors used have not been compared to any other list of descriptors used by patients with another disease. It is therefore impossible to know which descriptors are typical of certain pain states or diseases in Finnish and which descriptors of these can be presumed to differentiate various pain states from each other.

The Finnish Pain Questionnaire (FPQ) (11, 12) is based on Dallenbach's (6) classification, as is the MPQ (15, 16). The pain descriptors have been categorized into three main classes. These are: (1) words describing sensory qualities in terms of time, space, pressure, temperature, and other properties; (2) words to describe affective qualities in terms of tension, fear, and autonomic properties; and (3) evaluative words. The FPQ has not yet been standardized, and its validity and reliability are unknown.

The aims of this study were to find out if it is possible to differentiate the descriptions of pain in coronary heart disease from the descriptions of low back pain using the FPQ and to compare the usage of pain descriptors and their subclasses.

Table I. *The Finnish Pain Questionnaire, the frequencies of the attributes, and the weighted coefficients of the subclasses*

	Pain in coronary heart disease, $N=57$				Low back pain, $N=60$				The significances of the differences in the uses of the attributes in the descriptions	
Subclass/attribute	N	%	N	Weighted coefficient	N	%	N	Weighted coefficient	t	p
Sensory										
Temporal A										
Billowy (aaltoileva)	6	10			5	8				
Intermittent (kohtauksittainen)	8	14			7	11				
Continuous (jatkuva)	6	10	20	12	19	31	31	17	2.294	**
Temporal B										
Pulsing (tykyttävä)	7	12			6	10				
Beating (jumputtava)	7	12			7	11				
Pounding (jyskyttävä)	2	3	16	9	2	3	15	8		
Spatial										
Superficial (pinnallinen)	1	1			1	1				
One-sided (toispuoleinen)	11	19			14	23				
Radiating (säteilevä)	22	38			34	56			1.993	*
Deep (syvä)	9	15	43	19	6	10	55	23		
Punctate pressure										
Pricking (pistävä)	16	28			13	21				
Stabbing (lävistävä)	3	5			3	5				
Lancinating (läpitunkeva)	8	14	27	16	8	13	24	13		
Incisive pressure										
Sharp (terävä)	1	1			4	6				
Piercing (vihlova)	5	8			21	35			3.633	***
Slashing (viiltävä)	2	3			6	10				
Lacerating (repivä)	2	3	10	4	6	10	37	16		
Constrictive pressure										
Tight (vyömäinen)	7	12			0	0			2.827	**
Compresing (puristava)	43	75			7	11				
Cramping (kouristava)	6	10			3	5				
Suffocating (tukahduttava)	15	26			3	5			3.290	***
Crushing (musertava)	0	0	71	25	1	1	14	5		
Traction pressure										
Tugging (nykivä)	1	1			6	10				
Pulling (tempova)	1	1			3	5				
Wrenching (riuhtova)	0	0	2	1	1	1	10	5		
Thermal A										
Hot (kuumottava)	7	12			8	13				
Scorch (paahtava)	1	1			0	0				
Burning (polttava)	3	5			10	16			2.015	*
Fiery (tulinen)	1	1	12	5	0	0	18	7		
Thermal B										
Cool (viileä)	1	1			2	3				
Cold (kylmä)	3	5			5	8				
Freezing (hyytävä)	2	3	6	3	1	1	8	4		
Brightness A										
Tingling (kutiseva)	0	0			0	0				
Itchy (syyhyävä)	0	0			0	0				
Stinging (kirvelevä)	13	22	13	7	10	16	10	5		
Brightness B										
Tender (hellä)	2	3			7	11				
Sore (aristava)	4	7			27	45			5.236	***
Smarting (kihelmöivä)	1	1	7	4	1	1	35	19		
Dullness										
Sneaking (hiipivä)	3	5			0	0				

Table I. (cont.)

Subclass/attribute	Pain in coronary heart disease, $N=57$				Low back pain, $N=60$				The significances of the differences in the uses of the attributes in the descriptions	
	N	%	N	Weighted coefficient	N	%	N	Weighted coefficient	t	p
Sensory										
Weighing (painava)	6	10			6	10				
Numbing (turruttava)	7	12			10	16				
Gnawing (jäytävä)	1	1	17	7	12	20	28	12	3.336	***
Affective										
Tension										
Irritating (ärsyttävä)	3	5			17	28			3.523	***
Oppressing (ahdistava)	22	38			5	8			4.113	***
Annoying (tuskastuttava)	9	15	34	20	18	30	40	22		
Autonomic										
Heartburning (närästävä)	8	14			0	0			3.046	**
Sickening (kuvottava)	2	3			0	0				
Stunning (tainnuttava)	0	0	10	6	0	0	0	0		
Fear										
Fearful (pelottava)	7	12			4	6				
Frightful (kauhea)	1	1			3	5				
Terrifying (karmiva)	1	1	9	5	1	1	8	4		
Evaluative										
Mild (lievä)	4	7			2	3				
Troublesome (kiusallinen)	15	26			32	53			3.107	**
Intense (kova)	8	14			9	15				
Unbearable (sietämätön)	7	12			13	21				
Killing (tappava)	0	0	34	12	1	1	57	19		

*$p<.05$, **$p<.01$, ***$p<.001$ (2-tailed testing).

$$\text{Weighted coefficient} = \frac{\text{sum of the choice frequencies in a subclass}}{\text{number of attributes in a subclass}} : \text{number of patients} \times 100.$$

MATERIAL AND METHOD

Patients

The patients studied comprised 57 male patients with coronary heart disease (mean age 52.9 years) and 60 female patients with low back pain (mean age 52.0 years). The patients were participants in the clinical part of the study for the bases of pension age within Finnish community employees, in which men with coronary heart disease and women with low back pain (11) were studied.

All men had a classical history of angina pectoris of effort that had started on average 5.3 years previously and had been stable for at least 4 months. 31 of the 56 patients had had one or more myocardial infarction but none during the past year. The patients had had clinical, electrocardiographical and enzymatic evidence of myocardial infarction and/or, during bicycle exercise test, their electrocardiograms showed ST-T changes typical of coronary insufficiency (≥1 mm ST segment depression or elevation) with simultaneous chest pains.

The low back pain patients were selected by means of a questionnaire. The criteria was that the patient had had a sciatica or a low back pain due to the degeneration. Moreover, the diagnosis of the low back pain was supposed to be set by a doctor. Special clinical or e.g. radiological criteria were not used in selection.

Method

The patients described their pain by the FPQ (Table I). They were allowed to choose as many descriptors as they wished from the list of pain descriptors. The names of the dimensions and subclasses were omitted. The frequency of choice was calculated for each word, as were the differences of percentages between the independent groups, using the t-test. The weighted coefficients of the subclasses were calculated according to the following formula:

$$\text{weighted coefficient} = \frac{\text{sum of the choice frequencies in a subclass}}{\text{number of attributes in a subclass}} : \text{number of patients} \times 100$$

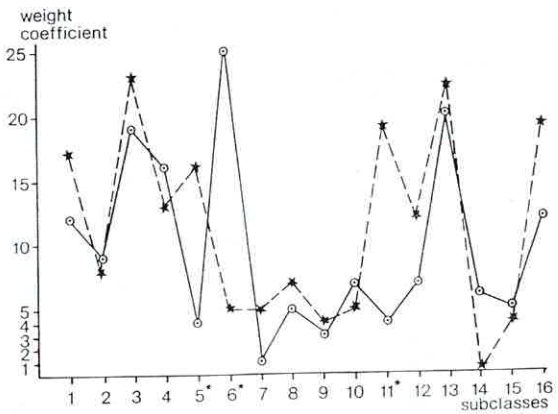

Fig. 1. The distribution of the subclasses. ⊙—⊙, Pain in coronary heart disease; ★—★, low back pain. Subclasses*: 5. Incisive pressure, $t=2.223$, $p<0.05$. 6. Constrictive pressure, $t=3.131$, $p<0.002$. 11. Brightness B, $t=2.636$, $p<0.01$ (2-tailed testing). 1, Temporal A; 2, Temporal B; 3, Spatial; 4, Punctate pressure; 5, Incisive pressure; 6, Constrictive pressure; 7, Traction pressure; 8, Thermal A; 9, Thermal B; 10, Brightness A; 11. Brightness B; 12, Dullness; 13, Tension; 14. Autonomic; 15, Fear; 16, Evaluative.

The weighted coefficients of the subclasses were compared by the *t*-test, as were the independent percentages.

RESULTS

Table I shows the FPQ. The frequencies of the choices of the attributes and percentages can be red from the table. The percentages refer to the proportions of the patients who chose the attribute to describe their pain. The weighted coefficients of the subclasses expresses the importance of the subclass in the description of pain.

Table II lists the order of the subclasses used to describe pain. The statistical comparisons revealed the differences of the usage of the attributes. The usage of the attributes that differed significantly between the pain groups are underlined. The statistical comparison of weighted coefficients revealed that the importance of the constrictive pressure subclass was more significant in describing coronary heart disease pain than low back pain. Incisive pressure and brightness B were the most significant in the descriptions of low back pain.

Table II. *The importance of the subclasses in the descriptions*

	Weighted coefficient
Pain in coronary heart disease	
Constrictive pressure	25
Tension	20
Spatial	19
Punctate pressure	16
Temporal A	12
Evaluative	12
Temporal B	9
Brightness A	7
Dullness	7
Autonomic	6
Thermal A	5
Fear	5
Incisive pressure	4
Brightness B	4
Thermal B	3
Traction pressure	1
Low back pain	
Spatial	23
Tension	22
Brightness B	19
Evaluative	19
Temporal A	17
Incisive pressure	16
Punctate pressure	13
Dullness	12
Temporal B	8
Thermal A	7
Traction pressure	5
Brightness A	5
Constrictive pressure	5
Thermal B	4
Fear	4
Autonomic	0

DISCUSSION

The results of this study revealed that there are different important descriptors patients use to describe pain in coronary heart disease or low back pain. The ischaemic origin of pain in coronary heart disease may cause the use of the attributes from the constrictive pressure subclass of the FPQ. The origin of low back pain is not so clear, and the pain can be caused by various factors. Therefore, the descriptions of low back pain included a greater variety of descriptors. Two subclasses of the FPQ were significantly more important in the patients' descriptions of low back pain than in the patients' descriptions of pain in coronary heart disease. These were incisive pressure and brightness B.

The most important descriptors which discriminated the descriptions of pain in coronary heart disease from the descriptions of low back pain were those that describe pain as constricting, pressing, extinguishing, anguishing, and containing the auto-

nomic features of pain. Low back pain was described by attributes such as continuous, radiating, burning, lacerating, sharp, nagging, and trouble some.

It is worth noting that the attributes which Savola & Mäntykoski (23) thought would describe pain in coronary heart disease included descriptors which better describe low back pain, for example, burning and radiating. The descriptors of the FPQ were chosen on the basis of statistics. The commonness and the intensity grading of an attribute were the most important criteria for selection. In fact, none of the attributes selected necessarily describes any special state of pain, but there are certain combination of attributes that can show differences in descriptions and thereafter discriminate states of pain from each other.

Dubuisson & Melzack (7) concluded that it is possible to make a diagnosis on the basis of verbal descriptions, as each type of pain appears to be characterized by a distinctive constellation of verbal descriptors. Melzack (18) decided that the relationship between injury and pain is highly variable and complex, with similarity of the descriptors used for all major types of injury. This was true also in our study. The patients in both groups often used the same descriptors. Only 13 of the 51 attributes used had statistically significantly different frequencies in the descriptions of states of pain.

The number of attributes used to describe pain in coronary heart disease was smaller than those used to describe low back pain. This may be because the pain itself in coronary heart disease is often like an acute attack, and, as pointed out by Melzack et al. (18), it depends on the injury itself. The descriptors including mostly the attributes of the constricting pressure and tension may be due to C-fiber activation. The ischaemic pain may activate the low conducting pain system.

Low back pain involves are more of a chronic state, a factor which causes more inaccuracy in the descriptions of pain. The continuousity of pain brings affective attributes and features from low conducting pain systems to the descriptions, but the sensory qualities of pain depends on the mechanisms of noxious stimulation and the descriptors includes also attributes that may be connected to the activation of fast conducting systems. After all, we cannot find any linear positive dependency between physiological reactions and emotional experiences.

The patients of the coronary heart disease pain group were men and those of the low back pain group were women. Whether this fact influenced the descriptions of pain is uncertain. Petrovich (20) concluded that sex does not cause significant differences in the experiencing of pain, and Melzack & Torgerson (15) concluded that people classify words in very similar ways despite widely divergent backgrounds. The same appeared to be true in Finnish, too (11, 12). We hypothesize that the FPQ is a valid measure for the description of pain, but much research work remians to be done. The use of the FPQ also provides statistically significantly different descriptions for different states of pain. Our results confirmed the experiences of the use of the MPQ.

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