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Arabic pain words

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Summary The initial stages in the development of an Arabic pain inventory are described. 279 Kuwaiti adults were asked to nominate as many words as they could think of to describe pain. A dictionary translation of the McGill Pain Questionnaire (MPQ) was prepared, and subjects judged which of these represent acceptable pain descriptions in Arabic. From these sources, a list of Arabic pain adjectives was compiled. 67 university undergraduates classified each word as sensory, evaluative or affective, and rated the pain intensity connoted. Over 100 Arabic pain words were identified. Ratings revealed that, just as in English, pain is a multidimensional concept. The pain intensity rank ordering of many groupings in the MPQ was preserved when the Arabic translations were rated, even though the Arabic adjectives were not presented in the format of the MPQ. Theoretical and practical problems encountered in producing a fully equivalent pain inventory in another language are discussed.

Key words: Pain vocabulary; Cross-cultural comparison; McGill Pain Questionnaire, Arabic version

Introduction

The clinical literature abounds in sensory descriptions of pain, e.g., 'cramping' menstrual pain, 'pounding' and 'splitting' headaches, and the 'gnawing' quality of arthritic pain. Physicians agree on terms which can help a differential diagnosis, and on the severity of pain expressed by different descriptions [15,19]. Whether this stems from their clinical experience, or preconceptions acquired during training, is still a matter of debate. Pain is a multidimensional experience, involving not only a sensory component but also the patient's emotional and cognitive reactions to it. English offers a rich vocabulary of pain words. *Sensory* terms, such as 'flickering,' 'shooting' and 'heavy,' describe spatial, temporal and other qualitative aspects of the pain. *Affective* words indicate the person's emotional and autonomic reactions to it, and include terms such as 'terrifying,' 'exhausting' and 'gruelling.' *Evaluative* terms, such as 'miserable' and 'unbearable,' summarise the total experience [15].

Doctors often utilise patients' descriptions of their pain when arriving at a diagnosis, and when assessing current management [1,2]. Patients often depend on verbal descriptions from medical personnel when preparing for procedures, and when checking for changes. Under such circumstances, it is vital that the communication should be as free as possible from ambiguity: that the information the person intended to convey is matched by the interpretation of the recipient [7]. Starting from the assumption that pain words are likely to vary in terms of how closely people concur about their meaning, researchers investigated to what extent native English speakers agreed about the pain intensity level conveyed by different words [13,15].

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For some adjectives, there was a high level of agreement between raters, but others emerged as ambiguous in terms of the pain intensity connated. The McGill Pain Questionnaire (MPQ) comprises words from the former category, and has been used in a variety of clinical and research settings for assessing pain [17]. Patients are required to select from the vocabulary of pain words offered whichever combination best describes the pain they are experiencing, and any changes they have noticed. The MPQ limits the patient to words which, if he or she uses them in a normative fashion, should convey a relatively unambiguous picture of the pain experienced. Patients are sometimes at a loss how to describe their pain. The MPQ provides a broad range of options, enabling patients to formulate richer and more precise descriptions. This partly reflects the distinction between an individual's 'active' and 'passive' vocabulary. The latter contains terms which the person seldom or never uses when speaking, but nonetheless understands perfectly well. And in part it reflects some patients' reticence to use everyday descriptions when describing their pain to a doctor [13]. The MPQ has proved useful in increasing patients' satisfaction with the clinical interview, and their effectiveness in conveying what pain they are experiencing and what changes they have noticed [13].

Finnish [9], Italian [12], Spanish [11] and German [10,16] versions of the MPQ have been published. The aim of the present study was to begin the task of developing an Arabic version. What words and what linguistic structures are deemed appropriate for describing pain varies from culture to culture [3]. 'Punishing' is an acceptable word for describing pain intensity in English, but in Finnish it has no currency for this purpose [9]. For some pain words, such as 'hot' and 'burning,' there is an independent (non-pain) reference supporting a differential rating which is likely to hold from language to language. But for terms such as 'ache' and 'hurt' this is not so [5], and there is no reason to suppose that the associations and connotations such words have acquired in one culture will hold in another. Associations which are not common will create cross-cultural rating differences when ostensibly the same word is being judged. For these reasons, a dictionary translation of the MPQ will not suffice. These difficulties are particularly pertinent in a country such as Kuwait where patients and doctors often do not share a common linguistic heritage. Many workers in Kuwait, many nurses, and some senior physicians, are from non-Arab countries. Furthermore, many Arabic-speaking doctors were trained in English, and may sometimes erroneously apply connotations from English when interpreting patients' comments in Arabic [19].

When the Italian version of the MPQ was being prepared, a dictionary translation of the English terms was presented to raters, together with synonyms selected by the researchers. The same classification of adjectives was retained, and no category validation trials were employed. A different approach was adopted by the Finnish researchers. They first asked native Finnish speakers to generate as many words as they could think of to describe pain. In later stages, subjects rated the pain intensity of selected volunteered words and dictionary translations of MPQ items, and classified new terms using the MPQ subgroupings. This method more closely resembles that used to generate the original English version. We adopted a similar approach, but instead of assuming that the MPQ groupings would apply [3], we asked subjects to classify each word presented as Sensory, Affective or Evaluative. Our aim was to contact a representative group of adult Kuwaiti, native Arabic speakers. We specifically did not want to limit ourselves to the well-educated, and risk developing a pain scale containing words that are too esoteric for the average patient to understand. This problem is probably more pronounced in Arabic than English, for there is a dichotomy between the spoken (colloquial) and written (classical) forms of the language. We also selected against using chronic pain patients and health care professionals because of evidence that their pain ratings differ systematically from those of non-professionals experiencing acute pain [4,7,20, 22]. Housewives, soldiers, teachers, and policemen were the main groups contacted to generate words. In the second part of the study, university students were asked to rate and classify the pain terms proposed.

Stage 1: word generation and initial screening of dictionary definitions of MPQ terms

Methods

Subjects. 279 Kuwaiti adults acted as subjects. The group included members of women's social clubs, conscript and regular soldiers, and students and staff of the Kuwait Police Academy. 37% was female, and 63% male. The mean age was 25.4 years, the range 17–64 years. Nine percent of subjects had not completed high school, 61% had completed high school but had not undertaken further study, 30% were university or college graduates (including 2% who had completed post-graduate studies).

Procedure. Subjects were asked to write down as many words as they could think of to describe pain. They were asked to limit themselves to single words and avoid generating phrases. Afterwards, subjects were given a dictionary translation of terms from the MPQ, and asked to check one of the following categories for each term: (1) unfamiliar with the word, (2) word appropriate for describing pain, (3) word not appropriate for describing pain.

Results

Any word which was proposed by more than one subject was incorporated into the list for subjects to rate during stage 2 (see Table I). Translated items were reviewed, and any that the majority of subjects had rated as not understood or as inappropriate was dropped, and a new translation was substituted.

Stage 2: rating and classification of pain words

Methods

Subjects. 67 Kuwait university undergraduates acted as subjects (48% male, 52% female). Age range 18–24 years.

Procedure. Subjects were presented with a single list of adjectives derived from stage 1, words were ordered alphabetically. They were asked to classify each word as (A) sensory, (B) affective or (C) evaluative, and then rate the intensity of pain connotated by it on a 10 cm visual analogue scale (0 was labelled 'no pain' and 10 was labelled 'worst pain you can imagine'). If necessary, the experimenter clarified the categories used. Subjects were encouraged to classify and rate all appropriate terms. Only if a word was not comprehended, or was judged inappropriate, were subjects instructed not to classify and rate it.

Results

The average rating and majority classification given to each of the Arabic pain words presented are shown in Table I. For purposes of comparison, the words have been reorganised following the MPQ format. Words within a category are rank ordered according to their MPQ pain intensity score.

Discussion

In Arabic, a rich vocabulary of words is available for describing different aspects of pain. The present study revealed over 100 terms which have general currency. As in English, words differed greatly in their pain intensity connotations: average pain values ranging from 2.7 to 9.3 were found. Words describing very different qualities of pain were rated similarly, e.g., 'beating,' 'lasting,' 'hot,' 'rough,' 'spreading,' 'tiring,' 'heavy' and 'miserable.' Suggesting that in Arabic too pain is a multidimensional concept.

Words differed in terms of what proportion of subjects were willing to rate them. A few, such as 'flashing,' 'dull,' 'radiating' and 'trembling,' were left unrated by over two-thirds of subjects. The standard deviations were, on average, higher than those found when developing the MPQ [15], and more in line with those reported for the Finnish questionnaire [9]. When the MPQ was being developed, a 5-point verbal categorisation was used. We selected a 10-point visual analogue scale because of the advantages reported [9], and because we had not established anchor terms in Arabic which are equispaced in terms of pain intensity and free of connotations which might affect the rating of some adjectives. Such procedural differences could well contribute to the higher variations reported [18]. In terms of clinical ratings,

TABLE I

	English term	McGill Pain Scale Classification and Intensity Rating [15].	Arabic Word Pain Intensity Rating			Majority Classfn.	
			N	Mean	S.D.	Type	%
		1.Sensory: temporal					
متقطع	flickering	3.8	55	5.4	2.1	C	42%
مرتعش	quivering	5.0	51	6.1	6.4	A	45%
نابض	pulsing	5.1	30	5.5	2.2	A	38%
خافق	throbbing	5.3	18	4.2	2.4	A:B:C	33%
ضارب	beating	5.4	17	6.8	2.1	B	65%
ساحق	pounding	5.7	27	7.2	2.4	C	56%
		2. Sensory: spatial					
قافز	jumping	5.2	9	6.0	0.8	B	56%
وماض	flashing	5.5	15	6.4	2.1	B	47%
		3. Sensory: punctate pressure					
وخز خفيف	pricking	3.9	60	3.4	2.6	A	53%
ثاقب	boring	4.1	34	6.9	2.4	B	50%
لاذع	drilling	5.5	37	7.1	2.1	A	49%
طاعن	stabbing	6.9	41	7.4	2.3	B	61%
يمزق	lancinating	7.0	50	7.8	2.1	B	40%
		4. Sensory: incisive pressure					
حاد	sharp	5.9	63	8.1	2.0	C	43%
جارح	lacerating	7.3	48	7.5	1.9	B	50%

TABLE I (continued)

	English term	McGill Pain Scale Classification and Intensity Rating [15].	Arabic Word Pain Intensity Rating			Majority Classfn.	
			N	Mean	S.D.	Type	%
		5. Sensory: constrictive pressure					
قارص	pinching	3.9	51	5.9	2.3	A:B	37%
ضاغط	pressing	4.8	53	6.5	2.2	A	51%
قارض	gnawing	5.1	26	5.4	2.3	B	62%
مشنج	cramping	5.5	49	8.2	1.8	B	57%
		6. Sensory: traction					
يشد	tugging	4.3	35	6.1	2.3	B	49%
ملوى	wrenching	6.9	42	7.5	2.1	B	50%
		7. Sensory: thermal(a)					
ساخن	hot	4.9	45	6.7	2.2	A	82%
حارق	burning	5.9	62	7.9	2.1	A	65%
لافح	searing	7.8	21	5.9	2.5	B	43%
		8. Sensory: brightness					
مسكر	tingling	3.2	30	7.0	3.1	B	50%
يحك	itchy	3.4	59	5.6	2.3	B	46%
أليم	smarting	4.0	48	8.1	2.1	A	44%
لاسع	stinging	4.5	51	7.0	2.1	A	53%
		9. Sensory: dullness(a)					
خافت	dull	3.2	19	3.1	2.3	C	47%
مؤذي	hurting	4.9	59	7.3	2.4	C	44%
موجع	aching	5.0	67	7.7	1.8	B	37%
ثقيل	heavy	5.9	38	6.8	2.2	A	37%

TABLE I (continued)

	English term	McGill Pain Scale Classification and Intensity Rating [15].	Arabic Word Pain Intensity Rating			Majority Classfn.	
			N	Mean	S.D.	Type	%
		10. Sensory: miscellaneous					
مضعف	tender	2.7	40	6.4	2.4	C	42%
موتر	taut	4.7	44	6.6	2.3	A	36%
مثير	rasping	5.2	27	6.5	2.4	A	41%
		11. Affective: tension					
متعب	tiring	4.8	62	6.7	2.1	C	42%
منهك	exhausting	5.3	55	7.6	2.2	C	40%
		12. Affective: autonomic					
يقزز	sickening	5.5	46	7.3	2.4	A	44%
خانق	suffocating	6.9	55	7.3	2.7	A	40%
		13. Affective: fear					
مخيف	fearful	6.6	50	7.1	2.5	C	36%
مرعب	frightful	7.1	48	7.5	2.3	C	48%
		14. Affective: punishment					
قاسي	punishing	7.0	58	7.7	2.3	C	48%
مرهق	gruelling	7.5	56	7.2	2.1	C	48%
شديد	vicious	8.5	63	8.5	1.9	C	54%
قاتل	killing	9.0	62	9.3	1.5	B:C	44%
		15. Miscellaneous					
معمى	blinding	6.9	24	8.4	1.6	B	46%

TABLE I (continued)

	English term	McGill Pain Scale Classification and Intensity Rating [15].	Arabic Word Pain Intensity Rating			Majority Classfn.	
			N	Mean	S.D.	Type	%
		16. Evaluative					
يضايق	annoying	3.7	60	6.3	2.3	C	50%
عسير	troublesome	4.8	50	7.5	2.0	C	60%
شاق	miserable	5.7	34	6.7	2.3	C	50%
شديد	intense	7.5	63	8.5	1.9	C	54%
لا يطاق	unbearable	8.8	64	9.0	1.6	C	63%
		17. Sensory: spatial & punctate					
منتشر	spreading	6.6	49	6.7	2.4	C	55%
مشع	radiating	6.8	10	5.1	2.3	C	70%
نافذ	penetrating	7.4	42	7.5	2.1	B	45%
مخترق	piercing	7.6	27	7.5	2.1	B	67%
		18. Sensory: dullness(b)					
مخدر	numbing	4.2	47	6.8	3.1	A	47%
ينازع	drawing	5.2	30	7.6	2.3	B	57%
		19. Sensory: thermal(b)					
فاتر	cool	N/A	39	3.0	2.6	A	46%
بارد	cold	N/A	40	4.9	2.8	A	81%
يثلج	freezing	N/A	24	5.3	2.7	B	48%
		20. Affective: autonomic					
مغث	nauseating	5.5	33	7.3	2.2	C	52%
مفزع	dreadful	8.2	49	8.1	2.0	C	43%
معذب	torturing	9.1	51	8.5	2.2	C	45%

TABLE I (continued)

	English term	Arabic Word Pain Intensity Rating			Majority Classfn.	
		N	Mean	S.D.	Type	%
	21. Anchor terms					
معتدل	mild	39	4.7	2.2	C	51%
مغلق	discomforting	54	6.5	2.5	C	48%
محزن	distressing	43	7.0	2.7	B	35%
رهيب	horrible	53	8.5	1.8	A:C	40%
مرير	excruciating	43	7.9	2.2	C	37%
	Additional words					
	TEMPORAL					
هادىء	steady	30	2.7	2.7	C	53%
عابر	transient	32	4.1	2.7	C	52%
قصيرالمدة	brief	45	4.3	2.5	C	62%
مستقر	static	35	5.7	2.9	C	37%
دائم	lasting	48	6.6	2.8	C	67%
مستمر	continuous	58	7.3	2.3	C	64%
متواتر	rhythmic	31	5.4	2.4	C	42%
متنقل	skipping	34	6.0	2.2	C	53%
دوري	periodic	48	6.0	2.0	C	63%
	ENERGY					
سريع	quick	28	6.3	2.7	C	57%
قوي	vigorous	62	7.9	2.0	C	61%
	FORM					
موضعي	local	54	5.6	2.3	B	41%
متجمع	coagulated	27	6.6	2.1	C	41%
مسيطر	gripping	35	7.3	2.7	B:C	40%
عميق	deep	47	7.4	2.1	A	36%
مركز	concentrated	41	7.5	2.5	C	44%

TABLE I (continued)

	English term	Arabic Word Pain Intensity Rating			Majority Classfn.	
		N	Mean	S.D.	Type	%
	EMOTIONAL IMPACT					
ممل	fed-up	38	6.2	2.7	A:C	37%
مرجف	shivering	46	6.6	2.4	A	48%
مؤثر	affective	44	6.8	2.1	A	43%
عصبي	nervous	36	6.9	1.9	A	44%
مكدر	depressing	46	7.0	2.3	C	50%
مؤرق	sleepless	51	7.2	2.3	B	35%
مرعد	trembling	19	7.3	2.3	A	42%
مبكي	crying	59	8.1	2.5	C	46%
صارخ	shouting	27	8.1	2.2	C	48%
	ASSESSMENT					
بسيط	slight	55	2.8	2.4	C	53%
خفيف	light	53	3.0	2.5	C	62%
متوسط	moderate	47	5.1	1.4	C	62%
كثيف	dense	21	6.7	2.2	C	67%
فظ	rough	17	6.8	2.2	A:C	41%
متصاعد	ascending	34	7.0	1.9	C	44%
زائد	excessive	44	7.2	2.4	C	52%
ضار	harmful	45	7.3	2.7	C	67%
صعب	hard	43	7.4	2.2	C	61%
عنيف	violent	56	7.9	2.1	C	43%
مبرح	severe	47	8.5	2.1	C	43%
فظيع	horrid	64	8.6	2.1	C	52%
مميت	deadening	62	9.3	1.6	C	55%

there is some evidence that a 101-point numerical rating scale is to be preferred [8]. Rating the intensity of more than 100 words and trying to detail shifts in actual pain are, however, very different tasks. And it may well be that subjects would not need, or could not use reliably, the discriminating potential of more categories for the present task. Different numbers of subjects opted to rate different words, and this should be taken into account when using standard deviation to compare rating consistency. Nonetheless, there are clear instances of differences in ambiguity. Although rated by fewer people, there was more uniformity concerning the pain intensity scoring of the word 'jumping' (S.D. = 0.8) than of 'vigorous' (S.D. = 2.0) which was rated by 7 times as many people. 'Quivering' was rated by most subjects, but emerged as highly ambiguous in terms of the intensity level connotated by it, and will be dropped from our list of potentially useful words.

The pain intensity rank ordering of words in the MPQ was often preserved when the Arabic translations were rated. The absolute intensity values produced tended to be higher for the Arabic version, but this may have been caused in part by the use of a 10-point rating scale. Words in Sensory groups 2, 3, 6, 18 and 19 showed a perfect rank order correlation, as do Affective groups 11, 13, 14 and 20. In other cases, the ratings of only one or two items spoiled the rank correspondence. These parallels are particularly impressive considering that items were presented to subjects in alphabetical order and not grouped as in the MPQ. This meant that subjects were rating a single cohort of over 100 words, and not groups of less than 8 [9,10,12,16]. Of the anchor terms, 'excruciating' is ranked 5th instead of 6th, but otherwise the pain intensity connotations in English and Arabic correspond. In this context, it should not be forgotten that different groups of native English speakers have been shown to display reliable differences. Patients, for example, rated 'dreadful' more highly than 'terrifying,' whilst doctors reversed this order [15].

Despite good correspondences in the intensity rank ordering of items in English and Arabic, there was less agreement regarding classification. Many of the words classified as Sensory in the MPQ were evaluated as Affective or Evaluative in Arabic. The reasons for this are not clear. The fact that there is a formal separation in Arabic between the written and spoken forms of the language may generate a situation where more terms are imperfectly understood, or not understood, by raters. Or it may be that this categorisation is not common, or is ambiguous, or is inappropriate in Arabic [3]. When the Italian, German and Finnish versions of the MPQ were being developed, it was assumed that the English subgroupings were valid, and subjects were not provided with an opportunity to endorse or reject these. There are good reasons, however, to suppose that pain categories may vary from culture to culture [3]. Presenting subgroupings provides subjects with an indication of what dimensions are available for categorising pain, and should assist in the classification of new words, but *only* if such groupings are meaningful to the subject. In the present study, subjects were only being asked to use the broad categories of sensory, affective and evaluative, but problems are evident. The fact that the pain intensity rank orderings of the Arabic and English versions corresponded within subgroupings is not evidence that these subgroups represent dimensions which Arabic subjects were using when judging intensity. Provided that the pain dimension(s) the rater was using correlated highly with that underlying a subgrouping, equivalent rankings will be seen [21].

When asking for Arabic pain terms, we restricted people to single words. We did this to stop them using qualifiers to produce intensity shifts, such as 'mildly disturbing,' 'greatly disturbing,' etc. But this may have prevented people volunteering descriptive phrases which are used commonly, and which do not have a single word equivalent. In developing the Italian version, the same problem was addressed, and the solution was to incorporate some phrases. 'Drilling,' for example, was translated as 'like being punctured by a nail.' In Arabic, we could find no satisfactory term for 'shooting.' In Italian, the phrase selected was 'like the rebound of a bed-spring.' Two German versions of the MPQ have been developed, and it is interesting that these vary considerably. In English, the word 'killing' connotates an extremely high intensity of pain, and the same is true in

Arabic. The word 'deadening' denotes as high an intensity of pain in Arabic, but has no equivalence in English. Such examples exemplify the difficulties of translation.

Our aim is to produce a pain inventory in which words are classified into groups which are meaningful in Arabic. The approach we intend to adopt is to provide subjects with Arabic pain words printed one to a card, and ask them to sort these into groups that belong together. It may be that the major categories of Sensory, Affective and Evaluative will not be the preferred classification. This would not preclude comparisons between the English and Arabic versions, provided that an appropriate overall score is derived. Indeed, based on correlations between the subjective, affective and evaluative components of the MPQ, it has been suggested that the discriminative power of these components is not good and that a total score across categories would be more legitimate [21]. It is also possible that it will prove legitimate to retain the 3 major categories, but that subgroupings will be changed. Methods have already been developed for compensating for different numbers of words in different categories when scoring pain [14]. Even in the MPQ, some groupings appear arbitrary. It is arguable, for example, why 'piercing' is grouped with 'radiating' rather than 'stabbing.' Although it would be very convenient if the final structure of the Arabic pain questionnaire closely resembled that of the MPQ, it seems to be more important for the categories to represent conceptual entities commonly used within the society to characterise pain, and for shifts in the perceived intensity of a dimension to be captured by the words bracketed within a category. It may well be necessary to dispense with the precise format of the MPQ in order to reflect its aims veridically.

We plan to look at the correspondence between ratings produced by patients in Kuwait and doctors treating them, and to pursue the question raised in the introduction of whether doctors who are native Arabic speakers but who were trained in English reflect the English equivalents of Arabic terms or the connotations of the community in which they practice. The classical written form of Arabic is universal, but Arab countries differ considerably in their spoken vocabulary. This provides an opportunity to investigate cross-cultural differences by asking subject groups from different Arab countries to rate a common list of written pain words, and establish which words do show cross-society equivalence, and which do not.

In terms of the development of an Arabic pain inventory, we are at the initial stages. A cohort of potentially useful terms has been identified. The results support the idea that the Arabic pain vocabulary can be used to investigate pain intensity. In later trials, words will be grouped, which should make the task easier for subjects. This probably will decrease intra-item variability and possibly improve discrimination within a group. Further research is needed to group items in a meaningful fashion for Arabic speakers, to establish which words are rated most reliably, and select words which represent different levels of pain intensity within each category. After this, a series of clinical and experimental evaluations will be needed to assess the validity and utility of the tool developed [6,21].

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References

1 Agnew, D.C. and Merskey, H., Words of chronic pain, Pain, 2 (1976) 73–81.

2 Bailey, C.A. and Davidson, P.O., The language of pain: intensity, Pain, 2 (1976) 319–324.

3 Fabrega, H. and Tyma, S., Culture, language and the shaping of illness: an illustration based on pain, J. psychosom. Res., 20 (1976) 323–337.

4 Fox, C.D., Steger, H.G. and Jennison, J.H., Ratio scaling of pain perception with the submaximum effort tourniquet technique, Pain, 7 (1979) 21–29.
5 Gaston-Johansson, F., Pain assessment: differences in quality and intensity of the words pain, ache and hurt, Pain, 20 (1984) 69–76.
6 Gracely, R.H., Pain language and ideal pain assessment. In: R. Melzack (Ed.), Pain Measurement and Assessment, Raven Press, New York, 1983, pp. 71–77.
7 Hodgkins, M., Albert, D. and Daltroy, L., Comparing patients' and physicians' assessments of pain, Pain, 23 (1985) 273–277.
8 Jensen, M.P., Karoly, P. and Braver, S., The measurement of clinical pain intensity: a comparison of six methods, Pain, 27 (1986) 117–126.
9 Ketovuori, H. and Pontinen, P.J., A pain questionnaire in Finnish — the Finnish Pain Questionnaire, Pain, 11 (1981) 247–253.
10 Kiss, I., Muller, H. and Abel, M., The McGill Pain Questionnaire — German version. A study on cancer pain, Pain, 29 (1987) 195–207.
11 Lahuerta, J., Smith, B.A. and Martinez-Lage, J.M., An adaptation of the McGill Pain Questionnaire to the Spanish language, Schmerz, 3 (1982) 132–134.
12 Maiani, G. and Sanavio, E., Semantics of pain in Italy: the Italian version of the McGill Pain Questionnaire, Pain, 22 (1985) 399–405.
13 Melzack, R., The McGill Pain Questionnaire: major properties and scoring methods, Pain, 1 (1975) 277–299.
14 Melzack, R., The McGill Pain Questionnaire. In: R. Melzack (Ed.), Pain Measurement and Assessment, Raven Press, New York, 1983, pp. 41–47.
15 Melzack, R. and Torgerson, W.S., On the language of pain, Anesthesiology, 34 (1971) 50–59.
16 Radvila, A., Adler, R.H., Galeazzi, R.L. and Vorkauf, H., The development of a German language (Berne) pain questionnaire and its application in a situation causing acute pain, Pain, 28 (1987) 185–195.
17 Reading, A.E., The McGill Pain Questionnaire: an appraisal. In: R. Melzack (Ed.), Pain Measurement and Assessment, Raven Press, New York, 1983, pp. 55–61.
18 Seymour, R.A., Simpson, J.M., Charleton, J.E. and Phillips, M.E., An evaluation of length and end-phrase of visual analogue scales in dental pain, Pain, 21 (1985) 177–185.
19 Tearnan, B.H. and Dar, R., Physician ratings of pain descriptors: potential diagnostic utility, Pain, 26 (1986) 45–51.
20 Teske, K., Daut, R.L. and Cleeland, C.S., Relationships between nurses' observations and patients' self-reports of pain, Pain, 16 (1983) 289–296.
21 Turk, D.C., Rudy, T.E. and Salovey, P., The McGill Pain Questionnaire reconsidered: confirming the factor structure and examining appropriate uses, Pain, 21 (1985) 385–397.
22 Urban, B.J., Keefe, F.J. and France, R.D., A study of psychophysical scaling in chronic pain patients, Pain, 20 (1984) 157–168.