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APROXIMACIÓ A L'ESTUDI DE LA PROBLEMÀTICA ACTUAL DEL TRACTAMENT DEL DOLOR

Tesi presentada per Fèlix Bosch i Llonch per a optar al grau de Doctor en Medicina i Cirurgia, i dirigida pel Dr. Josep-Eladi Baños i Diez.

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Acceptability of Visual Analogue Scales in the Clinical Setting: A Comparison with Verbal Rating Scales in Postoperative Pain

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SUMMARY

Pain is the clinical symptom most difficult to evaluate. Although clinical trials methodology have permitted assessment of pain objectively through rating scales, these strategies have not been used in clinical setting. The present study was undertaken to determine if visual analogue scales could be useful in the measurement of postoperative pain in usual medical practice. The study comprised 212 patients with abdominal, orthopedic or gynecological surgical procedures within the previous 24 h. Patients evaluated their pain using a verbal rating scale (VRS) of five points or a visual analogue scale (VAS) of 10 cm. The investigators also evaluated patient pain through a VAS. The results obtained showed that a high correlation between VRS and VAS could be established in all patients (p<0.001). The VAS of patients and researchers were also found to be highly correlated (p<0.001). When values of each group were compared by pain intensity a total agreement of VAS scores at low pain level could be established, but differences were found at high pain intensity levels, suggesting that physicians scored lower than patients when pain was severe to unbearable. It is concluded that VAS could be a reliable method to assess pain in clinical setting.

Key words: Postoperative pain - Pain scales - Visual analogue scale

INTRODUCTION

It is well known that pain is one of the clinical symptoms more difficult to evaluate. Its subjective character and the complex feelings that pain evokes make difficult its accurate measurement by physicians and nurses, and, as suggested by Huskisson (1), perhaps only the patients can quantify it correctly. However, several clinical trials on analgesics have shown that pain scales can be a reliable and objective method to assess the analgesic properties of drugs. It is generally accepted that visual analogue scales are more sensitive and accurate than other measures, thus being generally advised in the evaluation of the intensity of pain.

The problem arises when quantification of pain must be dône in the clinical setting. It has been suggested that sensitivity to pain is higher under clinical than under experimental conditions (2), and it is possible that clinical trial conditions could also alter the efficacy of analgesic therapy when compared with common medical practice. Additionally, neither practicing physicians nor nurses are generally aware of the use of pain scales. Their therapeutic decisions rely on subjective

evaluation of pain after asking the patient about it, and analgesics are often prescribed without considering the actual intensity of pain in every case. Moreover, the conditions of clinical trials are frequently not equivalent to those in the usual clinical setting, and methodologies used in the former could be useless when applied to the latter. For these reasons, there is an urgent need to test whether pain scales can be as advantageous in everyday medical practice as they are in clinical trials. Some preliminary reports suggest that visual analogue scales could be useful in assessing pain in these conditions (3).

The present study was undertaken in order to establish the usefulness of a visual analogue scale in the measurement of the intensity of postoperative pain in usual medical practice.

PATIENTS AND METHODS

Patient selection

Two hundred and twelve patients with abdominal, orthopedic or gynecological surgical procedures within the previous 24 h were admitted to the study. They were

recruited from three hospitals (A, B and C), two of them (A and B) with General Surgery (GS) Departments and the third (C) with Departments of Obstetrics and Gynecology (OG) and Traumatology and Ortophedics (TO). Only patients older than 10 years and able to fulfill pain scales were considered eligible. Since this study was intended as a naturalistic evaluation, no other inclusion and exclusion criteria were used. The main features of the study population are shown in Table 1.

TABLE 1. Main characteristics of the patients

	N	Percentage
Hospital		
A	48	22.6
B	38	17.9
C	126	59.4
Age (years)		
≤30	43	20.3
31-50	69	32.5
>50	100	47.2
Sex		
M	105	49.5
F	107	50.5
Surgical Procedure		
GS	86	40.6
TO	103	48.6
GO	23	10.8

Pain assessment

Pain was assessed both by the patient and the physician always within the first 24 h after the surgical procedure. Patients were instructed by a trained interviewer to rate the intensity of pain, if any, by using a five item verbal rating scale (VRS, 0 = no pain; 1 = mild pain; 2 = severe pain; 3 = very severe pain; 4 = unbearable pain) and a 10 cm horizontal visual analogue scale (VAS) with the statements «no pain» and «unbearable pain» at its extremes. The VAS was always administered immediately after the VRS. At the same visit and before the patient assessments, the responsible physicians (MC, AB and FO) evaluated the severity of pain by using an identical VAS. The physician was always blind to the patient scores, as well as to the administered analgesic medication before evaluating pain.

Anesthesia and postoperative analgesia

Information on the anesthesia and drugs used during the procedure (either inhaled, intravenous or local) was recorded. These data are not presented here since

the aim of the study was focused on the severity of pain regardless of the analgesic received. The investigators did not influence the medication prescribed for relief of pain and the staff responsible for prescription of analgesic drugs was intentionally kept unaware of this study being conducted in order not to alter the usual medical practice.

Data analysis

The overall correlation between VRS and VAS recorded by the patient was evaluated using the Spearman's ranked correlation test. The correlation between VAS scores according to patient and investigator's assessment was established by using the Pearson's correlation test. A separate evaluation by center and medical speciality was also performed. A value of $p < 0.05$ was considered statistically significant.

RESULTS

Pain severity values

The results obtained by using the VRS in the three hospitals are summarized in Figure 1. A wide range of pain intensity scores was observed. Important differences among hospitals were seen, especially with hospital A, where a high number of patients (89.6%) reported mild or no pain. When this finding was investigated, we found that the majority of surgical procedures performed over the study period were known as basically painless procedures. The variability observed in hospitals B and C was within the expected range.

Overall, pain was absent in 15.5% of the patients, mild in 58.6%, severe in 19%, very severe in 4% and unbearable in 2.9%. Taking into account that this was a naturalistic study, it is important to consider the large number of patients with high severity scores since almost 25% of the patients described their pain as severe to unbearable.

The VAS values recorded by the patients are depicted in Figure 2. Results are presented in two point intervals except for the lowest range, where the values from 0 to 0.2 cm were considered equivalent to 0 cm, thus being the second interval 0.3-2 cm.

VAS versus VRS in patients

The correlation between different values of the scales and some characteristics of the patients is shown in Table 2. When patients were considered globally, a high correlation ($p < 0.001$) was observed. Sex, age, type of surgical procedure and hospital center did not influence the correlation between both scales. The investigators
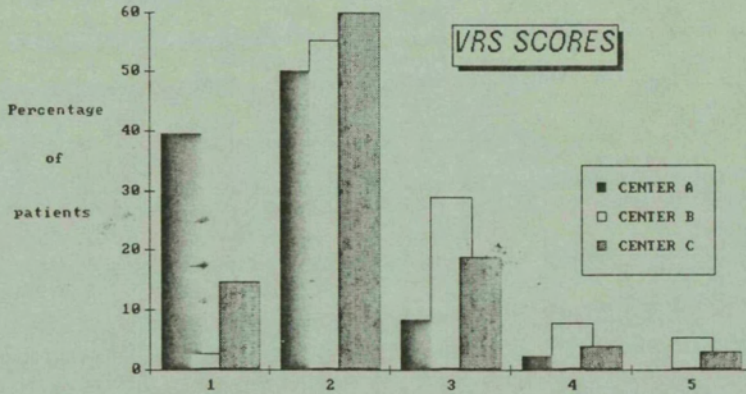
FIG. 1. VRS scores by center. 1 = no pain, 2 = mild pain, 3 = severe pain, 4 = very severe pain, 5 = unbearable pain. Vertical bars represent percentage of patients with each score in each hospital center.

had no difficulties in obtaining the VAS scores. When VRS values were compared with results obtained by VAS, no pain (15.5%) appeared to be equivalent to the 0-0.2 interval (16.4%), mild pain (58.6%) to the 0.3-4 interval (61%), severe pain (19%) to the 4.1-6 interval (13.2%), very severe pain (4%) to the 6.1-8 interval (5.1%) and unbearable pain (2.9%) to the highest VAS values 8-10 (3.1%).

VAS values of patients versus VAS values of investigators

The correlation between VAS values scored by the patients and the investigators is summarized in Table 3. Again, no differences were observed due to age, sex, surgical procedure or hospital center, although the correlation was poorer in patients undergoing obstetric and gynecologic procedures (r = 0.75). This finding could be due to the small sample size. An analysis by hospital center showed that hospital B had the lowest correlation coefficient (r = 0.66). When VAS values scored by patients were compared with those scored by the investigators, a noticeable trend was found (Table 4). At lower VAS values, there was almost a coincidence between both values, but as pain intensity increased, the differences became progressively larger, up to 30% at higher VAS values.
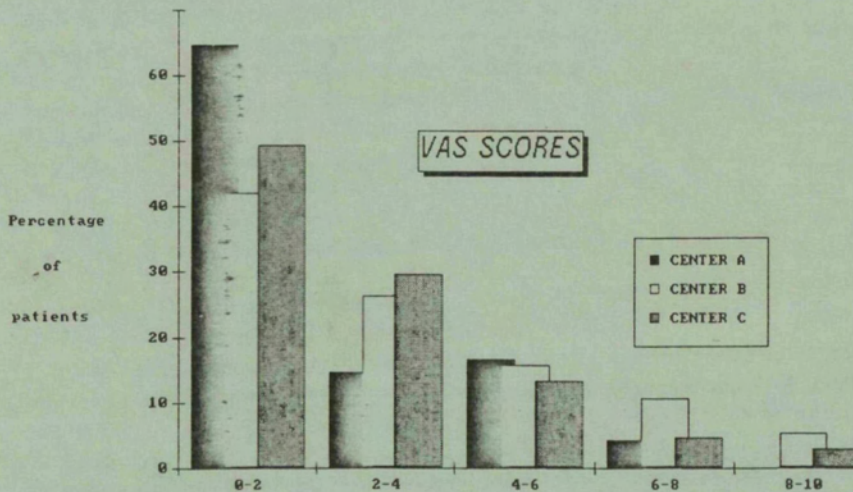

FIG. 2. VAS scores by center. Vertical bars represent percentage of patients with scores in each interval in each hospital center.

TABLE 2. Correlation between VAS and VRS

	N	Correlation coefficient[a]
Sex		
Male	105	0.73
Female	107	0.83
Age (y)		
≤30	43	0.66
31-50	69	0.75
>50	100	0.85
Surgical Procedure		
GS	86	0.87
TO	103	0.71
GO	23	0.69
Hospital		
A	48	0.89
B	38	0.80
C	126	0.70

[a]In all cases, $p < 0.001$, Spearman's ranked correlation test.

TABLE 3. Correlation between VAS values scored by patients and investigators

	N	Correlation coefficient[a]
Sex		
Male	105	0.83
Female	107	0.92
Age (y)		
≥30	43	0.78
31-50	69	0.88
>50	100	0.88
Surgical Procedure		
GS	86	0.87
TO	103	0.89
GO	23	0.75
Hospital		
A	48	0.96
B	38	0.66
C	126	0.88

[a]In all cases, $p < 0.001$, Pearson's correlation test.

TABLE 4. VAS values scored by patients and investigators in the study centers

VAS scored by the patients	VAS scored by the investigators[a]		
	Centre A	Centre B	Centre C
1	0.7 (70)	2.0 (NE)	1.0 (100)
2	1.6 (80)	2.4 (NE)	1.8 (90)
3	2.5 (76)	2.9 (97)	2.5 (83)
4	3.4 (85)	3.4 (85)	3.2 (80)
5	4.2 (84)	3.9 (76)	3.8 (76)
6	5.0 (83)	4.4 (73)	4.5 (75)
7	5.9 (84)	4.9 (70)	5.2 (74)
8	—	5.4 (68)	5.9 (74)
9	—	—	6.8 (75)
10	—	—	7.3 (73)

[a]Figures in brackets refer to the percentage of agreement (PA) with patients' values calculated as PA = (VAS investigator/VAS patient) x 100. NE = not evaluated.

DISCUSSION

In recent years there has been an increasing interest in the accurate evaluation of pain. As Wallenstein (4) pointed out, casual or random measurements by nurses or physicians are no longer acceptable. Clinical trials on analgesics have provided the necessary framework and methodology to scientifically evaluate pain (5, 6). However, this fact has not been followed by an improvement of pain therapy in usual clinical practice since a large number of patients are still suffering from pain in spite of analgesic treatment (7-9). Although some wrong assumptions in pain therapy and a limited knowledge of analgesic pharmacology could explain the inadequacy of pain relief, there is no doubt that a correct evaluation might enhance the probability of an improved treatment.

Among the potential methods useful in pain assessment, visual analogue scales (VAS) are commonly considered more sensitive and accurate than other rating scales (1, 10-12), as they allow a continuous evaluation which is not feasible by using verbal rating scales (VRS). In fact, VRS only use ranked values which are not necessarily equivalent to an identical difference in pain severity. Moreover, the verbal descriptors commonly used in VRS could have different meanings for different people (6). The present study compared a standard VRS with a well known VAS. We used the VAS proposed by Huskisson (1) and Wallenstein (4). The results obtained were similar to those reported in previous clinical trials (5, 13). The observed agreement is an interesting finding as it suggests that VAS could be a useful tool in the evaluation of pain in everyday practice. VAS is an accurate, sensible, cost-effective and easy-to-use method that allows the measurement of a subjective symptom. This is a very important consideration when prescribing analgesic therapy, as pain severity is the most important factor on which the selection of an analgesic drug should be based. Other studies are now

in progress in the same hospitals to evaluate if wider use of VAS can result in an improved pain relief in postoperative patients.

A question frequently neglected in analgesic studies is the values scored by the investigator and patient. Our results suggest that there is a good correlation between investigator and patients' assessments. However, as pain severity increases, researchers are prone to score lower than patients. This is in agreement with the results obtained by Hodgkins *et al.* (14) in rheumatic patients, although they reported such a trend in all pain severities. However, their differences were not statistically different. We did not perform any statistical analysis of this subset of patients since the sample size was too small. If confirmed, this finding would suggest that physicians undertreat pain due, at least to some extent, to their perception that patients have less pain that they claim. If this is so, measures should be taken to avoid unnecessary discomfort for patients in pain.

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A Survey of Pain Complaints and Treatment by General Practitioners in the Spanish Public Health Organization

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Abstract: The therapeutic habits of general practitioners are an important clue when drug therapy is considered, because they are treating the most frequent complaints. When pain problems are considered, it would be valuable to determine the characteristics of the pain consultations and their therapeutic attempts to solve these complaints. The present study was designed to elucidate the characteristics of pain diagnoses and treatment approaches at primary-care level in Spain. A total of 299 patients were evaluated, considering pain location, diagnostic syndrome, previous therapies, and treatments selected by the 13 participating physicians. Limb and back pain were the most frequent pain complaints. A third of the patients had received previous treatment and 36% were self-medicating, mainly with aspirin or paracetamol. Physicians prescribed diclofenac at full doses, but aspirin and paracetamol were used at subtherapeutic dosages. The study showed that (a) rheumatic pain was the most frequent at primary-care level, (b) a high level of self-medication was determined, therefore recommending a careful drug history, and (c) misconceptions about analgesic drugs may partially explain the therapeutic failure in some patients. Educational programs in rheumatic pain and analgesic therapy for general practitioners are strongly recommended. **Key Words:** Epidemiology—Rheumatic pain—Pain treatment—Primary care—Self-medication—Analgesics.

In most countries, general practitioners provide the first level of medical care. Pain is one of the more frequent symptoms that patients complain about to their physicians (1). However, the characteristics and treatment of such complaints in general practice has been a relatively neglected issue. Only very recently have epidemiologic studies on pain complaints in the general population published (1–4). Moreover, the core of work on pain problems has been carried out by medical specialists (anesthesiologists, rheumatologists, neurologists) and by those working in pain clinics. This fact, though logical, has sometimes resulted in a biased approach to pain problems (1). Therefore, although considerable effort has been expended to facilitate pain treatment in the past, little can be achieved without a substantial change in the attitudes and prescription habits of general practitioners, because most human suffering is actually in their hands. They visit nearly all patients, treating them for prolonged periods, and are requested to manage a great number of pain types. It would therefore be instructive to design studies on pain and its management in primary

health care, because they could offer an extensive and realistic picture of the present stage of pain problems in a community.

The present study was undertaken to establish how general practitioners are coping with pain in Spain. The purposes of this survey were (a) to study the characteristics of pain in patients who demand medical care for this symptom, (b) to evaluate how this pain is treated before asking for medical care, and (c) to define the therapeutic measures selected by primary care physicians.

METHODS

Data were collected by 13 general practitioners working in the Primary Health Centers (PHC) of Institut Català de la Salut, the public health organization of Catalonia. These PHCs were located in Sabadell, a city of nearly 200,000 inhabitants. Patients were recruited when they attended PHC or requested domiciliary assistance for medical care of pain complaints. Patients were never seen in a private practice setting.

Three hundred eleven patients were recruited. A case form was completed at the time of the first visit for each of them. Initial data included age and sex, type of assistance (domiciliary or PHC), evaluation of pain (diagnosis, duration, and intensity), and treatments (previous treatment, self-treatment if any, and therapeutic measures selected by the physician participating in the study).

Evaluation of pain

Only diagnostic syndromes were established, (e.g., headache, but not cluster headache, tension headache, or migraine), because an accurate diagnosis is not usually achieved at the primary-care level. Thereafter, each type of pain was classified on the basis of its location. Pain was considered "acute" when its duration was less than 1 week and "persistent" if longer.

Evaluation of intensity of pain

The evaluation of pain intensity was performed using a visual analogue scale (VAS) of 10 cm with "no pain" and "unbearable pain" at its ends. Both patients and physicians independently completed a VAS. Physicians scored first on one side of the case form and then the patient on the other, both of them being unaware of the score awarded by the other. A

verbal rating scale (VRS) of five categories (slight, moderate, severe, very severe, excruciating) was also completed by the patients before VAS scoring.

Statistical analysis

Data were analyzed by means of Statistical Package for Social Scientists (SPSS) software. Correlations between VAS scores of patient and physician, and between VAS and VRS of patients, were evaluated by Spearman and Pearson correlation tests, respectively.

RESULTS

Characteristics of pain complaints

General characteristics

Twelve (4%) of the 311 patients accepted in the study were excluded either for lack of cooperation or for their inability to understand the use of the VAS. For these reasons, only 299 patients were considered in the final analysis. The mean age was 43.5 years (SD ± 18.4, range 14–90) and 61% were women. A majority of them attended the consulting room at PHC. Table 1 shows a more detailed description of the sample.

Distribution of pain complaints

Table 2 shows the frequency of the different pain complaints classified by pain location and sex. The most frequent diagnoses were limb and back pain, reported by 31.1% and 25.4% of the patients, respectively, followed by head, face, and mouth pain (15.1%) and abdominal pain (12%). The most frequent diagnostic syndrome was back pain (31.1%) followed by peripheral joint pain (14%). When evaluated by sex, headache and peripheral joint pain were more frequent in women, whereas musculoskeletal and traumatic pain were more common in men.

The diagnoses designed as "other" in Table 2 and

TABLE 1. *Characteristics of the sample*

Characteristics	N	%
M/F	117/182	39.1/60.9
Age group (yr)		
<24	51	17.1
25–44	100	33.4
45–64	105	35.1
>65	43	14.4
Type of assistance		
Primary health center	258	86.3
At home	41	13.7

TABLE 2. *Prevalence of pain location by sex*

	Men		Women		Total	
	N	%[a]	N	%[a]	N	%
Limbs	43	36.7	50	27.5	93	31.1
Back	30	25.6	46	25.3	76	25.4
Head, face, mouth	12	10.3	33	18.1	45	15.1
Abdominal	15	12.8	21	11.5	36	12.0
Chest	8	6.8	9	4.9	17	5.7
Other[b]	9	7.7	23	12.6	32	10.7

[a] Percentage by sex.
[b] See text.

following comprised 32 patients who had psychological (10 patients), throat (seven patients), cancer (six patients), and ischemic limb pain (five patients), and a group of miscellaneous diagnoses (four patients).

Intensity of pain

Table 3 provides the intensity of pain in relation to the most frequent location as measured by a VRS scale. In our study, pain was experienced as most intense when related to head, face, and mouth, whereas the mildest was chest pain. The most painful diagnostic syndromes were headache and odontalgia; more than half of the patients reported their pain as very severe or excruciating. Colic pain, classified in the abdominal group, was also very painful.

When considering the type of assistance (at home or PHC), the majority of patients (90%) assisted at home rated their pain from severe to excruciating. On the contrary, in ambulatory patients the intensity was clearly lower, even though 80 of these patients (26.7%) scored their pain from very severe to excruciating. A high correlation was observed when individual VRS and VAS scores were observed. Good correlation was also obtained when VAS scores of physicians and patients were calculated; although at high intensity values physicians tended to rate the pain lower than the patients.

Duration of pain

When considering duration, 60% of the patients defined their pain as acute, whereas the remaining described it as persistent. Acute pain was more frequent in nearly all the diagnostic syndromes, but persistent pain predominated in several groups as cancer, psychological pain, back, and peripheral joint pain. In the group of headache, the number of patients developing acute of persistent pain was nearly equal.

Characteristics of pain treatment

Previous medical treatment of pain

A significant number of patients had received previous medical attention for their pain complaint. A total of 113 treatments (drugs and other therapeutic measures) were prescribed to 85 patients, resulting in an average 1.3 treatments per patient. Table 4 summarizes these previous treatments. As shown, the most frequently prescribed drugs were nonsteroidal anti-inflammatory drugs (NSAID, 36.3%) followed by paracetamol (9.7%) and topical drugs (8.8%). A similar administration pattern was observed when treatments prescribed by the physicians participating in the study were evaluated (Table 4). In this group, only a trend to prescribe more topical drugs and nondrug therapies was remarkable, but the average treatments received by each patient were similar (1.4) to the value observed in those treated previously (see above).

Self-medication

Nearly a third (107) of all the patients reported the intake of drugs by self-prescription. A total of 126 drugs, that is, 1.2 per patient were used. In this category, neither sex (37% men, 63% women) nor age (43 ± 17.6 years) distribution were different from those obtained in the general group of the study. As shown in Table 5, most of the self-

TABLE 3. *Intensity of pain evaluated by the verbal rating scale*

	Slight	Moderate	Severe	Very severe	Excruciating
Limbs	9 (9.7)	27 (29.0)	34 (36.6)	17 (17.2)	6 (7.5)
Back	2 (2.6)	21 (27.6)	26 (34.2)	20 (26.3)	7 (9.2)
Head, face, mouth	1 (2.2)	15 (33.3)	10 (22.2)	11 (24.4)	8 (17.8)
Abdominal	2 (5.6)	13 (36.1)	9 (25.0)	9 (25.0)	3 (8.3)
Chest	1 (5.9)	8 (47.1)	4 (23.5)	3 (17.6)	1 (5.9)
Other[a]	2 (6.3)	10 (31.2)	9 (28.1)	9 (28.1)	2 (6.3)
Total	17 (5.7)	94 (31.4)	92 (30.8)	69 (23.1)	27 (9.0)

Numbers in parentheses represent percentage of verbal rating scale scores by type of pain.
[a] See text.

TABLE 4. *Types of therapies in previous prescription and physician selected therapies*

	Previous prescription N = 113	Physician-selected therapies N = 421
Acetic acid derivatives[a]	16.8	14.0
Topical compounds	8.8	14.5
Paracetamol	9.7	11.6
Propionic acid derivatives[b]	5.3	8.6
Salicylates	7.1	6.9
Vitamin mixtures[c]	6.2	4.3
Spasmolytics	2.6	3.6
Piroxicam	4.4	3.1
Digestive drugs[d]	2.6	3.1
Metamizol	2.6	2.1
Codeine mixtures	4.4	2.1
Vascular drugs[e]	1.8	1.7
Ergotic drugs	0.9	1.4
Opioid drugs[f]	2.6	1.2
Other drugs	21.2	14.7
Other treatments	1.8	6.9

Results are expressed in percentages.
[a] Diclofenac, indomethacin, and fentiazac.
[b] Naproxen, ibuprofen, and ketoprofen.
[c] With and without analgesics.
[d] Includes antacid, antiemetic, and antiulcer drugs.
[e] Includes antihemorrhoid and antivaricose agents.
[f] Buprenorphine and dextropropoxyphene.

medicated patients had head, face, and mouth pain, the incidence being higher in those with otalgia (58.3%), odontalgia (57.1%), and headache (47.3%). Other pain groups, such as pain of psychological origin, also showed a high frequency of self-medication (near 60%). Abdominal and chest pain were the syndromes inducing self-medication to a lesser extent (<20%). Table 6 shows the drugs most frequently used. Over-the-counter analgesics, salicylates, and paracetamol comprised nearly 54% of all self-medication drugs, but it is interesting to note the high use of metamizol (7.1%) and other NSAIDs (8%), mainly diclofenac. Drugs were usually administered by the oral route, but also by topical and

TABLE 5. *Self-medication by types of pain*

	N	%[a]
Head, face, mouth	24	53.3
Limbs	33	35.7
Back	27	35.5
Chest	3	17.6
Abdominal	6	16.7
Other[b]	14	43.4
Total	107	35.8

[a] Percentage of all patients in each category.
[b] See text.

TABLE 6. *Types of self-administered treatments (%)[a]*

Salicylates	31.7
Paracetamol	22.2
Topical compounds	13.5
Metamizol	7.1
Acetic acid derivatives	4.8
Ergotic drugs	2.4
Vascular drugs	2.4
Digestive drugs	1.6
Propionic acid derivatives	1.6
Piroxicam	1.6
Codeine mixtures	1.6
Spasmolytics	0.8
Other drugs	4.8
Other treatments	2.4

[a] Drugs considered in each group are described in the footnotes of Table 4.

rectal administration. Intramuscular injection was not used at all.

Treatments prescribed by the physicians of the study

Table 7 shows the distribution of treatments depending on pain location. It is interesting to point out the high use of NSAID in limb and back pain, and that nearly a quarter of these patients received topical drugs. The drugs selected were clearly differentiated when the intensity of pain was considered. As shown in Table 8, salicylates and topical drugs seemed to be the medication of choice for slight pain, whereas diclofenac was mainly selected in excruciating pain. In this situation, vitamin preparations and topical drugs were also used (8.3%). The preferred route of administration was oral (65.2%) followed by topical (18.4) and intramuscular (9.5%). However, 6.9% of patients received drugs by rectal administration. Additionally, the daily dose prescribed to each patient showed striking differences when considering the distinct drugs. For example, physicians prescribed low doses of paracetamol and aspirin in all patients. In fact, none of them received more than 2.5 g with a mean daily prescribed dose of 1.41 g and 1.75 g, respectively. In contrast, the majority of patients taking diclofenac and naproxen received established therapeutic doses (100–200 mg for diclofenac and 500–1000 mg for naproxen).

DISCUSSION

The prevalence of pain in general population has been evaluated on the basis of different methods. Using telephone calls, Crook et al. (1) found that 16% of the interviewed individuals had experienced

TABLE 7. Physician-selected therapies in the most common types of pain

	Limbs N = 133	Back N = 111	Head, face, mouth N = 62	Abdominal N = 45	Chest N = 21
Salicylates	11.3	4.5	8.1	—	14.3
Acetic acid derivatives	22.5	14.4	6.4	11.1	14.3
Propionic acid derivatives	8.3	16.2	6.4	—	4.8
Piroxicam	6.0	3.6	—	—	4.8
Paracetamol	9.0	14.4	24.2	4.4	4.8
Codeine mixtures	0.7	—	8.1	—	9.5
Spasmolytics	—	—	—	28.9	—
Vitamin mixtures	3.0	10.8	—	—	—
Ergotic drugs	—	—	9.7	—	—
Topical compounds	24.1	23.4	—	—	14.3
Digestive drugs	—	—	—	28.9	—
Other drugs	8.3	5.4	33.9	13.3	23.8
Other treatments	6.8	7.2	3.2	13.3	9.5

Results are expressed as the percentage of each type of pain. Drugs considered in each group are described in the footnotes of Table 4.

pain in the preceding 2 weeks. By means of a postal survey, Brattberg et al. (4) reported a prevalence of 11% of persistent pain in Sweden. Similarly, Andersen and Worm-Pedersen (5) established a rate of 30% in Denmark. The present study was aimed at elucidating the characteristics rather than the prevalence of pain complaints in patients who seek medical assistance for this symptom in primary health care in Spain. Our results confirm and extend those of other studies carried out in apparently healthy individuals, reinforcing the interest of epidemiologic surveys to evaluate the prevalence of pain problems in the community. Our present data together with those previously published point out the importance of limb and back pain in the use of medical care (1,3,4,6). They also demonstrate the need

to develop educational programs to improve the training of general practitioners in treating these common complaints, because they are frequently requested to face pain problems. It has been shown that nearly 80% of individuals visit their general practitioner for these complaints, whereas other health professionals are consulted to a much lower extent (1). Additionally, patients with rheumatoid arthritis consider pain relief rather than reduction of stiffness or swelling as the primary goal of treatment (7,8).

As indicated previously (1), women complained of pain symptomatology more frequently than men. Men complained of musculoskeletal and traumatic pain more frequently than women, whereas the latter presented headache and peripheral joint pain

TABLE 8. Intensity of pain by treatments

	Slight N = 24	Moderate N = 131	Severe N = 121	Very severe N = 106	Unbearable N = 36
Salicylates	29.2	6.9	9.9	0.9	—
Acetic acid derivatives	4.2	9.2	13.2	17.0	27.8
Metamizol	—	0.8	0.8	4.7	5.6
Arylpropionic derivatives	—	5.3	12.4	11.3	5.6
Piroxicam	—	5.3	0.8	3.8	2.8
Opioid drugs	—	—	—	3.8	2.8
Paracetamol	—	16.8	13.2	7.5	8.3
Codeine mixtures	—	2.3	1.7	—	11.1
Spasmolytics	4.2	1.5	1.7	5.7	11.1
Vitamin mixtures	—	1.5	5.0	6.6	8.3
Ergotic drugs	—	0.8	1.7	1.9	2.8
Topical compounds	25.0	16.0	14.9	11.3	8.3
Vascular drugs	—	3.1	1.7	1.9	—
Digestive drugs	—	6.9	3.3	—	—
Other drugs	16.7	17.6	10.7	18.9	5.6
Other treatments	20.8	6.1	9.1	4.7	—

Results are expressed as the percentage of the intensity of pain. Drugs considered in each group are described in the footnotes of Table 4.

more commonly. Such incidence of higher frequency of headache in women had been described earlier (3). The most frequent type of pain in men, that is, traumatic and musculoskeletal, could be attributed to increased loading strains at work.

An interesting feature of the present study was the finding that some of the so-called minor pains, such as toothache and headache, were scored in the highest category by the patients when intensity of pain was evaluated. These types of pain, although not life threatening, may therefore be of high intensity when patients seek medical care.

Crook et al. (1) have shown that two-thirds of interviewed individuals did not visit a health professional when they had pain, mainly because the complaint was slight. It is therefore reasonable to assume that medical care is sought when the intensity of pain increases to an unbearable level in which self-administered therapies fail to produce relief. Thus, it is essential to obtain an accurate medication history because a considerable number of patients are likely to be self-treated. In this regard, Gibson and Clark showed that 14% of patients with rheumatoid arthritis were self-medicating (7). This value is probably higher, because analgesic users tend to underestimate their drug consumption (9,10). Nearly 80% of patients with rheumatoid arthritis or back pain are likely to be using self-prescribed analgesics (11). This should be borne in mind in view of the report that only a half of British rheumatologists ask their patients about self-administered over-the-counter medication (12). In our study, one-third of patients were taking drugs by self-prescription. Over-the-counter analgesics, such as aspirin or paracetamol, were consumed the most, but 8% used NSAIDs, mainly diclofenac and naproxen. Additionally, a significant proportion of patients might have received previous treatments prescribed by other physicians. Taken together, these data suggest that an accurate drug history is clearly needed in order to avoid the prescription of similar treatments and to allow the establishment of correct dosage.

When analyzing the treatments prescribed by the physicians participating in our study, several observations deserve attention. First, the prescription of NSAIDs for noninflammatory conditions indicates that these drugs might be used often for their analgesic effects. This would explain their high use in Spain, where NSAIDs rank in the first places of drug sales. A second interesting feature is the fact that diclofenac was prescribed the most to patients

with excruciating pain, suggesting that physicians considered this drug very effective in these situations. This belief could be explained in part by the fact that diclofenac was prescribed at therapeutic doses, whereas aspirin and paracetamol were used at dosages lower than those needed to obtain a full therapeutic effect. Alternatively, it might be argued that physicians had an excessive confidence on the potency of diclofenac. The use of vitamin compounds to treat intolerable pain in 8% of patients is evidence of incorrect knowledge of analgesic drugs on the part of primary care physicians.

In conclusion, the present study shows that limb and back pain are the most frequent pain complaints in patients who seek medical assistance at primary care level. A high level of self-medication should be assumed in all patients presenting pain complaints and, therefore, a careful medication history should be undertaken. Finally, misconceptions about drug therapy may explain the failure to relieve pain in some patients.

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