Pain is a universal symptom of various pathologies and largely affects human well-being. Pain is therefore commonly observed by general practitioners (GPs) and its management is a useful indicator of quality. In our study we investigated the epidemiology and management of pain in Italian general practice.

**Methods:** Participating GPs were asked to record the first out of every two contacts with pain during two working weeks between November 2000 and February 2001. They entered information on type of pain, pain-related diagnosis, certainty of diagnosis and types of prescription. **Results:** 89 GPs participated in the study. About one third of all reported contacts were with pain. The number of contacts analysed was 1432. Nearly half the cases were diagnosed as acute. The main complaints were of musculoskeletal and abdominal origin. Pain was 1.5 times more frequent in women than men and the female to male ratios for acute and chronic pain were 1.2:1 and 1.8:1 respectively. The most frequent site of pain was the limbs. ‘Arthropathies and related disorders’, ‘dorsopathies’ and ‘rheumatism excluding the back’ were the commonest groups of diagnoses. Approximately two thirds of contacts with pain led to a drug prescription. **Conclusions:** The study identified a high proportion of contacts with pain in Italian general practice, with widespread use of drugs. The distribution of chronic and acute pain was rather similar and musculoskeletal pain was the most frequent form. Most types of prescriptions were closely related to certainty of diagnosis.

**Keywords:** Italy, general practice, pain, pain management, NSAIDs

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Methods

This observational, cross-sectional survey was carried out as a preliminary stage of PACO (PAin COst), a project aimed at assessing quality and costs of pain management in Italian general practice.21

All the 99 GPs belonging to CSERMEG (an Italian network of experienced GPs doing clinical research) were contacted and asked on a voluntary basis to directly record their routine activity of two working weeks (freely chosen between November 2000 and February 2001) on a standardised case report form. Since CSERMEG includes only GPs for adults (young patients aged under 13 are looked after by paediatric GPs in Italy), children were excluded from the study. Eighty-nine GPs accepted and were asked to record all consultations and visits, from which we calculated the proportion of contacts related to any kind of pain. During consultations GPs explicitly asked patients if they had pain. To avoid disruption of out-patient practice, GPs were asked to note only the first out of every two contacts with pain. They entered the following information:

- type of pain (origin, duration and site)
- pain-related diagnosis
- confidence in the certainty of the diagnoses (‘certain’ and ‘uncertain’)
- types of prescription (drugs, physical therapy, laboratory tests, diagnostic procedures, specialist referrals, hospital admissions).

GPs were asked to clarify their hypothetical diagnoses according to the International Classification of Diseases, 9th revision (ICD-9). We used the ICD-9 grouping for the purpose of analysis. Although ICD-9 definitions do not always adequately describe the clinical picture from an algological point of view, their use ensured standardised diagnoses for the study purposes. It is also worth noting that the ICD-9 does include a class ‘symptoms, signs and ill-defined conditions’, which actually covers symptoms rather than real diagnoses. GPs were also asked to record the specific drug if they issued a prescription. Drugs were classified according to the Anatomical Therapeutic Chemical (ATC) classification system for the purpose of analysis.

Data were statistically analysed with SAS software. Proportions were used as descriptive statistics for categorical and ordinal variables, mean and standard deviation (SD) for continuous variables. The Mantel–Haenszel chi squared test was used to compare proportions.

Results

Eighty-nine GPs, 50 from the north, 29 from the centre and 10 from southern Italy, participated. The mean number of patients attending their practices was 1322. Of the 89 participating GPs, 82 reported 8012 contacts (57.9% women), 2536 for pain (31.7%). The remaining seven GPs provided details of 164 contacts with pain, but did not specify the number of consultations during the study period and the total number of contacts with pain. Thus, the total number of contacts analysed was 1432 (2536/2 + 164), of which 843 were with women and 569 with men. The mean age was 54.7 years (7.4% <25 years, 65.3% 25–70 years, 27.3% >70 years).

Table 1 shows the main characteristics of the pain. The distribution of acute and chronic disorders was similar (47.2% and 52.8%, respectively). The female to male ratios were 1.2:1 for acute and 1.8:1 for chronic pain. The most frequent origin of pain was somatic (71.9%), the majority being musculoskeletal. Visceral pain was found in 21.7% of contacts (most of them of abdominal origin), particularly among women (19.1%). Neuropathic pain was identified only in 3.5%, while the remaining contacts (2.8%) were considered of multiple origin. Pain was most frequently in the limbs (28.2%), abdomen (16.4%), back (13.8%) and neck (12.9%); in 11.9% of cases pain was in multiple sites.

GPs were able to establish a pain-related diagnosis for 89% of contacts, but reported their diagnosis as certain only in 58% of them (table 2). The largest category of diagnoses was ‘arthropathies and related disorders’ (23.2%), followed by ‘dorsopathies’ (16.5%) and ‘rheumatism excluding the back’ (13.1%). Many pathologies were observed similarly in women and men. The major sex differences were found for ‘headache’ (3.3:1), ‘non-infective enteritis & colitis’ (2.3:1), and ‘unspecified myalgia & myositis’ (2.1:1) where the ratio was female-dominated.

Table 3 illustrates the health care services prescribed by GPs for pain management. Drug therapy was by far the most frequent (70%), followed by diagnostic procedures (28.5%) and specialist referrals (22.3%).

To further analyse the impact of diagnostic certainty, we investigated its relation with the type of prescriptions (data not shown). The prescription of physical therapy (9.2% for uncertain and 19.6% for certain cases, P < 0.0001) and specialist referrals (17.8% and 24.6%, P = 0.004) increased with the certainty of the diagnosis, while prescriptions for laboratory tests (12.0% and 4.3%, P < 0.0001) and diagnostic procedures (30.1% and 23.9%, P = 0.006) decreased. No significant

### Table 1 Distribution of pain by its main characteristics in the 1432 contacts surveyed

<table>
<thead>
<tr>
<th>Pain classification</th>
<th>Number of contacts</th>
<th>%</th>
<th>Female to male ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Onset and duration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>676</td>
<td>47.2</td>
<td>1:2:1</td>
</tr>
<tr>
<td>Chronic</td>
<td>756</td>
<td>52.8</td>
<td>1:8:1</td>
</tr>
<tr>
<td>2. Pathophysiological origin*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somatic</td>
<td>994</td>
<td>71.9</td>
<td>1:4:1</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>865</td>
<td>62.6</td>
<td>1:4:1</td>
</tr>
<tr>
<td>Visceral</td>
<td>300</td>
<td>21.7</td>
<td>1:9:1</td>
</tr>
<tr>
<td>Abdominal</td>
<td>215</td>
<td>15.6</td>
<td>1:9:1</td>
</tr>
<tr>
<td>Vascular</td>
<td>70</td>
<td>5.1</td>
<td>1:2:1</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>1.1</td>
<td>1:1:1</td>
</tr>
<tr>
<td>Neuropathic</td>
<td>49</td>
<td>3.5</td>
<td>1:1:1</td>
</tr>
<tr>
<td>Multiple</td>
<td>39</td>
<td>2.8</td>
<td>1:4:1</td>
</tr>
<tr>
<td>3. Site</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limbs</td>
<td>404</td>
<td>28.2</td>
<td>1:4:1</td>
</tr>
<tr>
<td>Abdomen</td>
<td>235</td>
<td>16.4</td>
<td>1:7:1</td>
</tr>
<tr>
<td>Back</td>
<td>190</td>
<td>13.8</td>
<td>1:2:1</td>
</tr>
<tr>
<td>Neck</td>
<td>185</td>
<td>12.9</td>
<td>1:7:1</td>
</tr>
<tr>
<td>Head</td>
<td>151</td>
<td>10.5</td>
<td>1:4:1</td>
</tr>
<tr>
<td>Chest</td>
<td>89</td>
<td>6.2</td>
<td>1:1:1</td>
</tr>
<tr>
<td>Multiple</td>
<td>170</td>
<td>11.9</td>
<td>2:0:1</td>
</tr>
</tbody>
</table>

*a: The number of contacts does not add up to the total of 1432 because of some missing data
Diseases of the respiratory system

Injuries and adverse effects

Symptoms, signs and ill-defined conditions

Other

Table 2 Pain-related diagnoses according to ICD-9

<table>
<thead>
<tr>
<th>Diagnosis (n = 1432)</th>
<th>Number of contacts</th>
<th>%</th>
<th>Female to male ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>157</td>
<td>11.0</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1275</td>
<td>89.0</td>
<td></td>
</tr>
<tr>
<td>Certain</td>
<td>739</td>
<td>58.0</td>
<td></td>
</tr>
<tr>
<td>Uncertain</td>
<td>536</td>
<td>42.0</td>
<td></td>
</tr>
</tbody>
</table>

Type of diagnosis (n = 1275)

Discussion

This study surveyed the major characteristics of pain and its management in Italian general practice. Potential limitations should be borne in mind. First, participating doctors cannot be considered representative of all Italian GPs as they were not randomly selected and were distributed differently from the Italian population of GPs (56.2% in the north, 32.6% in the centre and 11.2% in the south versus 37.2%, 30.3%, and 32.6% in Italy). This poses an intrinsic limit on the generalisability of results. Secondly, the study only covered two weeks and information was collected during the winter; this could have overestimated the proportion of contacts with pain since arthropathic pain peaks in the winter. Thirdly, the lack of validated and standardised methods of pain classification may have reflected on the practical assessment of pain and obliged GPs to rely mainly on their empirical judgement.11

The major strength of this study is that information on pain assessment and the consequent prescriptions were recorded with the same questionnaire for 1432 contacts in general practice. The survey showed the high proportion of pain managed in general practice in Italy: three contacts out of 10 were patients with pain. The large proportion of acute pain was striking, since general practice in Italy is commonly believed to serve predominantly patients with chronic pain. About 65% of contacts were patients of working age so considerable social consequences might be expected. Musculoskeletal pain was most frequent, it was usually acute, of traumatic origin, and widespread relationship was found between certainty of diagnosis and hospital admissions.

More than half the prescriptions were for NSAIDs alone or in combination with other drugs (table 4); non-selective NSAIDs like diclofenac or nimesulide were largely prescribed. The second commonest drug group was analgesics/antipyretics (13.5%). Whereas NSAIDs were more prescribed for chronic than acute pain (1.5:1), analgesics/antipyretics were more often used for acute pain (1:1.2).
among the young male population; chronic pain, due to arthropathies, mainly afflicted elderly women.

Diagnostic uncertainty seems to be a critical feature in Italian general practice: 89% of contacts with pain ended with a diagnosis, but GPs reported only 58% of them as ‘certain’. Although this would appear more understandable for acute than chronic pain, diagnostic uncertainty was common for both, suggesting that subsequent pain management was, to some extent, independent of the diagnosis. The relation between resource consumption and degree of certainty in diagnosis was uneven.

The greater recourse to diagnostic procedures and laboratory tests for diagnostic uncertainty is presumably aimed at clarifying the nature of the complaint. It is less obvious why physical therapy, a traditional treatment for specific chronic complaints of the locomotor apparatus, was more often prescribed when diagnoses were certain; one possible interpretation is that physiotherapy was requested, than to the need to confirm or clarify a diagnosis.

The number of contacts does not add up to the total prescribed for pain. This was expected, since the study followed specific therapies, or to follow up pathologies considered more frequently for chronic pain and under diagnostic certainty, perhaps because of their more favourable gastrointestinal profile. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, from the main indication of NSAIDs for arthropathy-related complaints.

Non-selective NSAIDs were the drugs most frequently prescribed for pain. This was expected, since the study followed by only a few months the launch of selective NSAIDs in Italy (September 2000). Both non-selective and selective NSAIDs were mostly used for chronic complaints. This could follow from the main indication of NSAIDs for arthropathy-related complaints. Selective agents were used more in elderly patients, perhaps because of their more favourable gastrointestinal profile. A substantial share of prescriptions involved paracetamol alone or in combination with codeine. This might be because paracetamol is designated as the first-line drug for arthritic pain in several guidelines. Analgesics were used more frequently for chronic pain and under diagnostic certainty, probably to avoid disguising underlying pathologies by palliating their symptoms (e.g. in abdominal pain).

It is difficult to compare our results with other studies because most articles addressing pain either deal only with chronic pain or the setting is not general practice. Frølund and Frølund (1986) reported on pain in general practice in Denmark.
Key points

- 89 general practitioners participated in the study to investigate the epidemiology and management of pain in Italian general practice.
- About one third of contacts were with pain, 1.5 times more frequent in women, 65% for patients of working age.
- The distribution of chronic and acute pain was rather similar, musculoskeletal pain was the most frequent form.
- Approximately two thirds of contacts with pain led to a drug prescription, more than half of them were for NSAIDs.
- Diagnostic uncertainty was common for both chronic and acute pain, suggesting that subsequent prescriptions were independent of the diagnosis.

References


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