

The fate of the patient with musculoskeletal disorders in Italy: an epidemiological insight

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Introduction

Rheumatic diseases represent a relevant problem for the patient, society, and the health care system because of the amount of disability, loss of working days, and burden on health resource. Musculoskeletal disorders (MSD) are the most common cause of severe long-term pain and disability. Recently, several Italian studies have evaluated the prevalence of MSD (1-6) and the impact in health-related quality of life (HRQL) (7, 8). Knowledge of disease epidemiology is a crucial step both to understand etiology and set up appropriate care (9). The ratio between the number of patients derived from epidemiological studies and that of clinical diagnoses, as well as the number of patients followed by general practitioners (GPs) or specialists could provide some insight on the natural history of MSD. To obtain this information, we have evaluated published and unpublished data from our previous epidemiological studies. The prevalences observed in two different Italian regions were very close, suggesting that the pattern of behaviour toward rheumatic patients may be similar across the country.

Prevalence of musculoskeletal pain and of selected rheumatic diseases in the Italian population

Joint pain, defined as any joint pain lasting more than four weeks, was reported by 889/3294 (27%, 95% CI 26.6-27.4) subjects from the general population in a survey conducted in northwest Italy (5). The data were derived from a postal questionnaire. Joint pain was more common in females (31.2% women vs. 22.1% men; $\chi^2=33.8$, $p < 0.00001$) and in advanced age. In a recent study performed in central Italy (1), 576/2155 (26.7%, 95% CI 25.4-28.5) subjects receiving a postal questionnaire reported to have or have had joint pain in a continuous or intermittent fashion for at least three months. Pain due to trauma was excluded. Female sex and age again were positively associated with the frequency of joint pain. Despite the slightly different definition of joint pain, both studies suggest that more than a quarter of the Italian adult population are suffering or have

suffered from it. This figure is roughly in agreement with an estimation from a nation-wide survey performed by the Italian Statistics Institute in 2001, where 15% of Italians self-reported to suffer from arthritis (10).

The wide disease subgroups in which the previously cited 27% prevalence figure is divided are the following: symptomatic peripheral osteoarthritis (OA), with a prevalence of 9% (95% CI 6.8-10.7); soft tissue disorders, with a prevalence of 8.8% (95% CI 7.2-10.3); low back pain, with a prevalence of 5.9% (95% CI 4.9-6.9); and inflammatory rheumatic diseases, with a prevalence of 3.1% (95% CI 2.4-3.9) (1). In particular, rheumatoid arthritis (RA) had a prevalence of 0.33% (95% CI 0.13-0.53) in one study (4) and of 0.46% (95% CI 0.33-0.59) in another one (1). These figures and the associated confidence intervals were very similar to those reported in the past in other studies from northern and central Italy. Altogether, they suggest that the real prevalence of RA in Italy is about 0.4%, and has not changed in the last 50 years. In subjects aged 18 or more, the prevalence of symptomatic OA of the knee was 5.4%, that of hand OA 2%, and that of hip OA 1.6% (1). Another Italian study gave higher values but considered subjects aged 65 or more: the prevalence of knee, hand and hip OA being 29.9%, 14.9% and 7.5%, respectively (3). The burden of osteoporosis and of osteoporotic fractures has not been considered in the previously cited studies, although their impact is well recognized in our Country (11). The incidence of femoral fractures in Italy in subjects aged 75 years or more was 1850/100,000 per year in women, and 849/100,000 in men, with an increase of 10% over 4 years (1998-2002) possibly due to the increasing age of the general population (12). The nearly 80,495 Italian patients with femoral fractures per year are almost always diagnosed and hospitalized following a referral pattern, which is different from that studied in the present approach. Vertebral fractures are the most common clinical manifestation of osteoporosis, although no specific study has been made on their incidence

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in the Italian population. Data collected elsewhere demonstrated that more than 30% of women aged 75 years and older and 50% of women aged 85 years and older have experienced a nontraumatic vertebral fracture, not always diagnosed (13). In our studies, they may contribute to the low back pain or metabolic bone disease subgroups.

Evaluation by GPs and referral for further investigations

Of the total number of rheumatic patients, 59% are seen by their GPs. The remaining 41% do not require medical attention and most of them undergo self-treatment. The burden of MSD on the Italian GPs is high, because the frequency of visits for MSD ranges between 10% (14) and 18% of the total consultations. In the Liguria region, of the cases of MSD seen by GPs, 48.2% are degenerative, 23.9% inflammatory, 16.6% traumatic, and 11.3% are of unknown cause (14). Italian GPs frequently request imaging tests (35.6% in Liguria, 39.1% in Marche). Among them conventional radiology ranks first (52%-56%), followed by MRI (20%-24%), ultrasonography (12%-18%), and CT (12%-14%). Laboratory examinations are asked in 17.3% of the Ligurian patients and in 22.4% of those from the Marche. Specialist referral is recommended to 17.5% of the Ligurian patients and to 24.8% of those from the Marche. Orthopaedic surgeons are consulted more frequently with 50% of the consultations in Liguria and 13% in the Marche region, followed by physical therapy specialists with 11.1% and 16% of the consultations, and finally by rheumatologists with 5.5% and 7% of consultations, respectively. Specialist referral by GPs was more frequent for young patients, patients with high BMI or long-lasting disease; and in cases of unknown cause, or involvement of the hand or of the hip (14).

Case mix of patients seen by rheumatologists

The case mix of patients seen by Italian rheumatologists is shown in table I. Data are obtained from a multicenter study from different Italian regions (15) and from Salaffi F. *et al.* (unpublished

Table I. Case mix of the patients seen by rheumatologists in Italy.

Condition	Liguria	Marche
Osteoarthritis	21.4%	21.5%
Arthritis	40.4%	37.9%
Connective tissue disease	14.4%	15.1%
Soft tissue disorder	18.5%	20.6%
Metabolic bone disease	5.3%	4.9%

observations). There are no major differences between the two studies. It is important to remember, however, that in the multicenter study relevant differences in the composition of the case mix were seen among the participating centers (15).

Conclusions

Figure 1 shows the flow of patients from the general population to the different steps of their care by different clinicians. Of the 48,136,832 Italians aged over 18 years (2006 census), at least 25% (almost 13 million, adjusted for gender) have suffered or suffer from MSD but only 60% of them (approximately 7.7 million) are followed by physicians and a small minority (approximately 350,000) by rheumatologists (about 1000 in Italy). The ranking of the diseases most frequently seen by rheumatologists is completely different from that in the general population.

As an example, arthritis, which is the least common condition in the general population, becomes the most common in the rheumatologist's waiting room.

In the USA, approximately one-third of all adults are affected by objective joint pain, swelling or limitation of motion (16). In 1990, an estimated 15% of the US population reported having arthritis. This percentage reaches 49.4% if only subjects aged 65 years or more are considered (17). These figures are comparable with those shown in our report. In the US, the majority of MSD consultations are performed by GPs (52.9%), followed by orthopaedic surgeons (19.6%) and rheumatologists (16.5%) (18). The relative percentages of visits for osteoarthritis and soft tissue disorders are similar to those observed in Italy. Additional rheumatological diseases were more difficult to compare due to different classification criteria (18). The case mix seen by rheumatologists in other countries may vary according to the policies of the health system. In Germany, rheumatologists care only for patients with inflammatory joint conditions, of whom 81.2% are affected by arthritis and 18.8% by connective tissue disease (19). Dutch rheumatologists visit more patients with arthritis (50.5% vs. 40% in Italy) and soft tissue disorder (27.6% vs. 20%), but fewer patients with connective tissue disease (8.1% vs. 15%) (20).

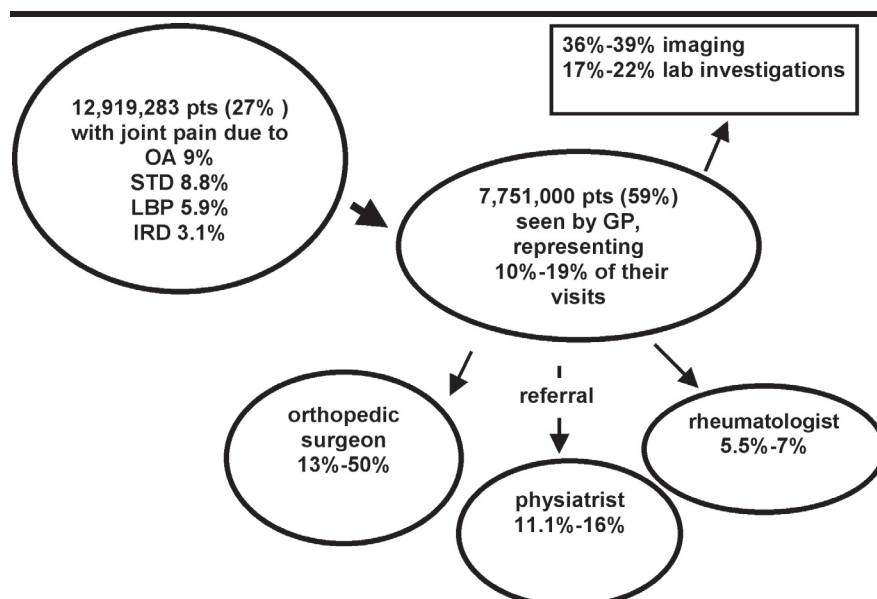


Fig. 1. Flow of adult Italian patients with musculoskeletal diseases from the general population to general and specialist care.

Our results suffer from several weaknesses. They are derived from studies of only a few thousand subjects, and extrapolation of results to the national population is arbitrary. However, the many similarities seen in independent studies carried out in two different parts of Italy suggest a similar trend. The most relevant results are that nearly 40% of patients with MSD do not seek medical attention and that, of the remaining 60%, only 4% are seen by rheumatologists. This fact may be ascribed to the smaller number of rheumatologists practicing in Italy in comparison with orthopedic surgeons and physiatrists as well as to their unequal geographical distribution. We feel that the figures described in this report should raise public and decision maker awareness on the social relevance of MSD.

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