

Osteoporosis pain management in Italy

Stefano Coaccioli¹, Raffaele Antonelli Incalzi², Francesco Falez³, Giovanni Iolascon⁴, Franco Marinangeli⁵, Maurizio Rossini⁶, Maria Luisa Brandi⁷

¹ President, European League Against Pain; Professor (retired) of Internal Medicine, Perugia University, Perugia, Italy; ² Internal Medicine, Campus Bio-Medico University, Roma, Italy; ³ "Sapienza" University of Rome, Rome, Italy; ⁴ Rehabilitation Unit, Multidisciplinary Department of Medical and Surgical Specialties and Dentistry, University of Campania "L. Vanvitelli", Caserta, Italy; ⁵ Department of Anesthesiology and Pain Treatment, University of L'Aquila, L'Aquila, Italy; ⁶ Rheumatology Unit, Department of Medicine, University of Verona, Verona, Italy; ⁷ F.I.R.M.O., Italian Foundation for the Research on Bone Disease, Florence, Italy

ABSTRACT

Purpose: The aim of the authors was to investigate physicians' practical approach to pain in patients with osteoporosis.

Methods: A questionnaire prepared by a board of Italian experts was administered to members of scientific societies involved in the management of osteoporosis.

Results: Chronic pain was more frequent in individuals with osteoporosis than in the general population (approximately 50% vs 26-28%). The pain experienced by patients with osteoporosis is localized to the main sites of fractures. The respondents' answers suggest that some fragility fractures go undiagnosed. The use of objective tools for assessing pain was found to be very frequent among anesthesiologists and geriatricians, and rare in the other specialization groups. Acute or recurrent pain is often treated with NSAIDs, but several other options are also chosen.

Conclusions: The answers indicate low adherence to the national regulation on pain management (Italian law 38/2010), and inadequate evaluation of patients' clinical conditions. The therapeutic choices reported reveal a very inconsistent clinical behavior and suggest a lack of confidence with shared recommendations.

KEYWORDS

Osteoporosis, pain, fragility fracture, pain scales.

Introduction

Osteoporosis is a skeletal disease characterized by decreased mass and qualitative changes of bone, leading to increased bone fragility and risk of fracture. The micro- and macro-architecture, material properties, and geometry of bone are altered^[1,2]. The clinical manifestation of osteoporosis includes acute, recurrent or chronic pain and fragility fractures, leading to functional limitations, in turn resulting in decreased autonomy and social participation with considerable social and health system costs^[3].

Although fragility fractures may occur in any skeletal segment, the main locations are the spine, the proximal ends of the femur and humerus, and the distal end of the radius^[4,5].

The pain induced by a fracture in skeletal segments may have mechanical, inflammatory, and neuropathic components, nevertheless fractures of the vertebral bodies often go undiagnosed. Over time, mechanisms such as postural changes with continuous contraction of the paraspinal muscles, joint imbalance, and skeletal deformation contribute to progression towards chronic pain^[6]. Progressive loss of height with severe chronic low back pain is a common symptom in patients with osteoporosis, as shown by large population studies, especially in the elderly^[7,8].

Several societies have published guidelines for managing osteoporosis, but osteoporosis is both an underdiagnosed and undertreated disease, and the assessment and treatment of pain in these patients is still complicated^[11-4,9-11].

Article history

Received 11 Apr 2023 – Accepted 4 Apr 2024

Contact

Maria Luisa Brandi; marialuisa@marialuisabrandi.it
F.I.R.M.O., Italian Foundation for the Research on Bone Disease
Via San Gallo 123 - 50129 Florence, Italy - Phone: +39 055 2336663

A survey was conducted among specialists dealing with osteoporosis in Italy to investigate physicians' practical approach to pain in this condition.

Participants and methods

In June 2020, a virtual meeting was held to identify the topics to be covered in a survey aiming to describe osteoporosis pain management in current clinical practice in Italy. The meeting was attended by representative experts from Italian scientific societies involved in the management of osteoporosis: Italian Association for the Study of Pain (IASP); Italian Society of Anesthesia, Analgesia, Resuscitation, and Intensive Care (SIAARTI); Italian Society of Orthopedics and Traumatology (SIOT); Italian Society of Orthopedics, Medicine, and Rare Diseases of Bone (ORTOMED); Italian Society of Osteoporosis, Mineral Metabolism and Bone Diseases (SIOMMMS); Italian Society of Endocrinology (SIE); Italian Society of Gerontology

and Geriatrics (SIGG). On the basis of the meeting input, the experts developed and reviewed a questionnaire. Between October 2020 and January 2021, the questionnaire was administered online to members of the scientific societies. The questionnaire consisted of 24 questions. Questions in the first section explored the respondents' demographic and professional characteristics. The second section investigated their approach to assessing and treating pain in patients with osteoporosis. Additional questions about specific topics relative to their specialization were addressed to the IASP, SIAARTI, SIOT, ORTOMED, SIOMMMS, SIE, and SIGG members. Open and closed (multiple-choice, with either single or multiple permitted answers) questions were included. Interviews were anonymous. Data were analyzed by descriptive statistics and presented as absolute numbers or percentages. The Chi square test analyzed comparisons.

The English version of the survey questionnaire is presented as Supplementary Material.

Results

Clinical practice in Italy

Overall, 486 physicians answered the questionnaire. Of these, 359 (74%) confirmed that they managed patients with osteoporosis and were therefore included in this study. Respondents were spread across all the Italian regions and their number per region was proportional to the population of each region. The specializations most frequently represented were orthopedics

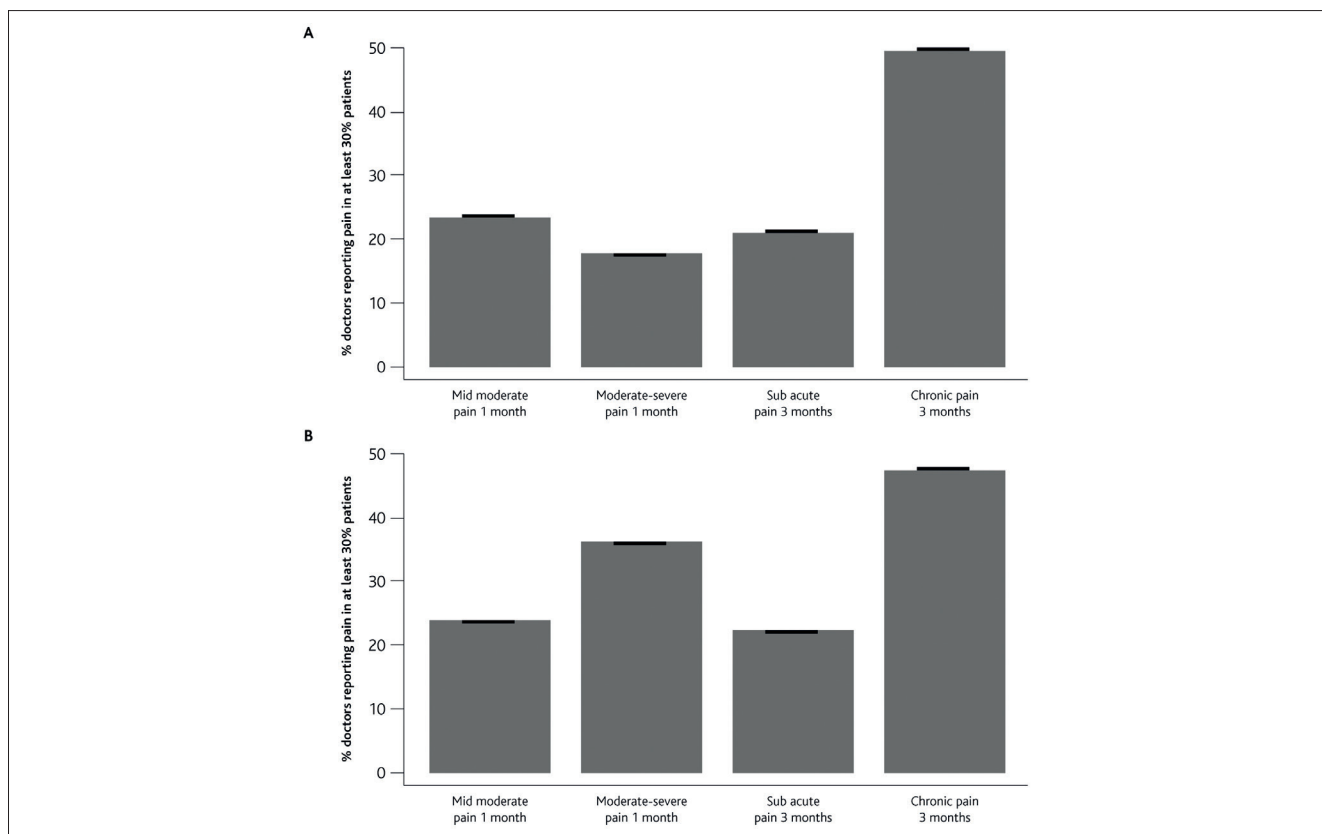
($n=239$), gerontology ($n=89$), anesthesia ($n=77$), endocrinology ($n=25$), and rehabilitation ($n=25$). More than 70% of respondents had at least 5 years' clinical experience with osteoporosis.

Each physician had examined 1-600 patients with osteoporosis in the previous 6 months (median=25 patients). For 42% of the respondents (66% of the geriatricians, 37% of the orthopedic specialists, 31% of the anesthesiologists, and 30% of the endocrinologists), patients with osteoporosis accounted for >30% of the examinations they had conducted; for 22% of the respondents, they accounted for <10% of examinations.

Pain in osteoporosis

Sixty-five per cent of physicians reported that less than 30% of their patients with osteoporosis had mild-moderate acute pain in the month prior to the survey. In total, 70% of physicians reported that less than 20% of patients had moderate-severe acute pain and that a bit more than 20% of patients had a sub-acute pain in the three months after the survey, and 50% reported that up to 40% of patients had chronic pain (Figure 1A). A similar prevalence of different types of pain was reported for patients with osteoporosis and diagnosed fracture ($n=264$). Seventy per cent of physicians reported that less than 25% of patients had mild-moderate acute pain; 61% reported that more than 35% of patients had a moderate-severe acute pain and that a bit more than 20% of patients had a sub-acute pain in the three months after the survey. Finally, 50% of physicians reported that 1-30% of patients had a chronic pain (Figure 1B).

Figure 1 Proportion of physicians who reported pain in >30% of patients (A) with osteoporosis ($n=284$), or (B) with osteoporosis and diagnosed fracture ($n=264$).



Patients with acute or recurrent pain, after a radiological assessment, are followed up personally by 60% of physicians, while 17% refer them to a center for pain therapy, and 5% to orthopedics.

For 78% of respondents, pain assessment is based on the medical history and clinical examination, while response to treatment is always considered by 46% of physicians. The proportions of physicians who always use pain assessment scales were lower: 25% for the visual analog scale (VAS) and 29% for the numeric rating scale (NRS). Each of these scales is often used by 22% of respondents (Table 1).

Most respondents (70%) reported a degenerative spine condition as the cause of pain in >30% of patients; a lower proportion of respondents (50%) reported fragility fractures as the cause of pain in >30% of patients.

For 70% of physicians, the first intervention for acute or recurrent pain was an analgesic drug, while 26% opted for an anti-osteoporotic drug, and 4% a non-pharmacological rehabilitation program. Treatment for acute or recurrent pain is often or always based on anti-osteoporotic drugs according to 80% of the respondents, on paracetamol according to 67%, on opioids and non-pharmacological interventions for 48% each, on NSAIDs + opioids for 41%, on NSAIDs for 40%, and on COX-2 inhibitors for 35%.

Among the criteria for the selection of pain treatment, the following were deemed very important by >50% of respondents: cause of pain (68% of respondents), pain intensity (69%), type of pain (53%), and treatments for comorbidities (56%). Improvement of functionality was considered a very important criterion for assessing treatment efficacy by 66% of physicians, while physical examination and patient satisfaction were very important for 52% and 56% of respondents, respectively.

When the prescribed pain treatment is not effective, an association of pharmacological with non-pharmacological thera-

py is often or always chosen by 75% of respondents, the addition of an analgesic by 61%, a change of anti-osteoporotic drug by 59%, and a dose increase of the current analgesic by 58%.

According to the physicians, >50% of patients with osteoporosis have pain localized at the spine (61% of respondents), the lower limbs (7% of respondents), and the hip (5% of respondents).

The cause of pain in >20% of patients with osteoporosis is related to a recent vertebral fracture for 61% of physicians, a previous vertebral fracture for 54%, osteoporosis for 21%, a concomitant degenerative disease for 62%, and a concomitant inflammatory disease for 32%.

Pain management by specialization

The answers given by the members of the most represented specialist groups (anesthesiologists, geriatricians and orthopedics) were analyzed.

Almost all these respondents said they use medical history and physical examination as criteria for pain assessment. Although the NRS is an important tool, frequent use of it (quite often, often, always) was found to be more common among anesthesiologists (98%) than among geriatricians (75%) and orthopedic specialists (52%, $p<0.001$). On the contrary, frequent use of VAS for pain assessment was less commonly reported (43-63%) across all three groups (Table 2).

Among treatments for pain, frequent use of anticonvulsants and antidepressants (often or always) was found to be more common among anesthesiologists and geriatricians than orthopedic specialists (22%, 23%, 8%, respectively; $p<0.001$). Frequent use of selective COX-2 inhibitors was less common among geriatricians than anesthesiologists and orthopedic specialists (21%, 42%, 39%, respectively; $p=0.025$). On the contrary, frequent use of NSAIDs was higher among orthopedic specialists than geriatricians and anesthesiologists (27.5%, 33.3%, 48.4%, respectively; $p=0.017$). Frequent use of an NSAIDs/opioids combination was more common among geriatricians (21%, $p=0.012$) than anesthesiologists (47%) and orthopedic specialists (47%). Conversely, frequent use of opioids alone was less common among orthopedic specialists (37%, $p<0.001$) than anesthesiologists (80%) and geriatricians (60%). In addition, frequent acetaminophen use was less commonly reported by orthopedic specialists (61%, $p<0.025$) than by anesthesiologists (77%) and geriatricians (83%), while frequent use of non-pharmacological treatments was less common among geriatricians (42%, $p=0.032$) than among anesthesiologists (57%) and orthopedic specialists (52%) (Table 3).

Table 1 Methods used by respondents for the assessment of pain.

METHOD	OFTEN USED N (%)	ALWAYS USED N (%)
Clinical history and physical examination	28 (11)	200 (78)
Response to analgesic drugs	61 (24)	117 (46)
NRS	55 (22)	74 (29)
VAS	55 (22)	63 (25)

NRS: numerical rating scale; VAS: visual analogue scale

Table 2 Methods for the assessment of pain often or always used, according to the main specialization.

	ANESTHESIOLOGISTS (N=42)	GERIATRICIANS (N=48)	ORTHOPEDECS (N=126)	P-VALUE
Medical history and clinical examination	42 (100%)	48 (100%)	122 (97%)	0.233
Numerical rating scale	41 (98%)	36 (75%)	66 (52%)	<0.001
Visual analog scale	18 (43%)	27 (56%)	79 (63%)	0.173

Discussion and conclusions

We report the results of a survey conducted with the aim of describing the current management of pain in patients with osteoporosis in Italy. Specialists belonging to scientific societies involved with osteoporosis and fragility fractures were invited to participate, and a board of experts prepared the questionnaire.

The answers show that, in the respondents' experience, chronic pain is more frequent in individuals with osteoporosis

Table 3 Treatments often or always used according to the specialization.

	ANESTHESIOLOGISTS (N=42), N (%)	GERIATRICIANS (N=48), N (%)	ORTHO-PEDICS (N=126), N (%)	P-VALUE
Anticonvulsants-antidepressant	9 (22.5)	11 (22.9)	10 (8.2)	<0.001
COX-2 inhibitors	17 (42.5)	10 (20.8)	48 (39.3)	0.025
NSAIDs	11 (27.5)	16 (33.3)	59 (48.4)	0.017
NSAIDs + opioids	19 (47.5)	10 (20.8)	58 (47.5)	0.012
Opioids	32 (80.0)	29 (60.4)	45 (36.9)	<0.001
Acetaminophen	31 (77.5)	40 (83.3)	75 (61.5)	0.025
Antiosteoporosis	32 (80.0)	34 (70.8)	106 (86.9)	0.06
Non-pharmacological treatments	23 (57.5)	20 (41.7)	63 (51.6)	0.032

than in the general population (approximately 50% vs 26-28%)^{11,12-14}. The pain experienced by patients with osteoporosis is localized to the prevalent fracture sites (i.e., forearms, spine and hips). In patients with vertebral fractures, the pain they experience is often not directly linked to the fractures, which suggests that some fragility fractures go undiagnosed. Most respondents treat pain, and personally follow up their patients with acute or chronic pain, which shows that they feel confident and adequately trained for this clinical activity. This finding seems to contrast with the rare use of pain assessment scales, which suggests low adherence to the national regulation on pain management (Italian law 38/2010), and inadequate evaluation of patients' clinical conditions. Indeed, current Italian law states that pain assessment and management must be reported in the patient's clinical record; this requires quantification of the pain intensity using scales, evaluation of the type of pain, localization of the pain, and recording of its evolution. This law is in line with the relative SIAARTI guidelines and with the international NICE guidelines for chronic pain management^{15,16}. The use of objective tools for assessing pain was found to be very frequent among anesthesiologists and geriatricians, and rare in the other groups of specialists.

Pain in patients with osteoporosis is often interpreted as due to osteoarthritis, suggesting that the possibility of a fracture is not considered as frequently as it needs to be. Acute or recurrent pain is often treated with NSAIDs, but several other options are also chosen, revealing highly inconsistent clinical behavior, and suggesting a lack of familiarity with shared recommendations. Some differences were found in the preferred analgesics: COX-2 inhibitors seem to be more often used by anesthesiologists and orthopedic specialists than by geriatricians, and orthopedic specialists seem to use NSAIDs less frequently than the other specialists. A clear prevalence of pharmacological treatments in comparison with non-pharma-

cological interventions was found. Orthopedic specialists and physiatrists use this latter type of treatment more often than other specialists do.

Notwithstanding this inconsistency in the choice of treatments, the respondents use the correct criteria for choosing pain treatments, in line with current recommendations: cause, intensity, type of pain, presence of comorbidities^{15,16}. Consistently, the criteria used to evaluate therapy efficacy are usually correct, namely¹⁵: improvement of functionality, patient satisfaction, and quality of life. When the choice of treatment is reconsidered, because of inefficacy of a previous therapy, the answers show that inappropriate behaviors are not rare, and decisions are not consistent. Switching to a different treatment seems to be the most frequent choice, followed by the association of a second drug; a dose increase and re-appraisal of the anti-osteoporotic drug are less frequent choices.

Another important recommendation is to initiate the treatment with efficient drugs early in the disease course, as the consequences of late intervention have an impact on the results of the selected therapy.

In conclusion, a better approach to treating pain in patients with osteoporosis should be encouraged. Objective assessment of pain as a guide for the institution of early and efficient treatment seems to be a neglected aspect. Early and sustained treatment of pain would help to prevent physical function deterioration and disability. Consensus on the choice of treatments seems to be scarce.

References

- Vellucci R, Terenzi R, Kanis JA, et al. Understanding osteoporotic pain and its pharmacological treatment. *Osteoporos Int*. 2018;29(7):1477-91.
- Nuti R, Brandi ML, Checchia G, et al. Guidelines for the management of osteoporosis and fragility fractures. *Intern Emerg Med*. 2019;14(1):85-102.
- Paolucci T, Saraceni VM, Piccinini G. Management of chronic pain in osteoporosis: challenges and solutions. *J Pain Res*. 2016;9:177-86.
- Gregson CL, Armstrong DJ, Bowden J, et al. UK clinical guideline for the prevention and treatment of osteoporosis. *Arch Osteoporos*. 2022;17(1):58.
- Lorentzon M, Johansson H, Harvey NC, et al. Osteoporosis and fractures in women: the burden of disease. *Climacteric*. 2022;25(1):4-10.
- Vellucci R, Mediatì RD, Ballerini G. Use of opioids for treatment of osteoporotic pain. *Gin Cases Miner Bone Metab*. 2014;11(3):173-6.
- Chou YC, Shih CC, Lin JG, Chen TL, Liao CC. Low back pain associated with sociodemographic factors, lifestyle and osteoporosis: a population-based study. *J Rehabil Med*. 2013;45(1):76-80.
- Kim DH, Vaccaro AR. Osteoporotic compression fractures of the spine; current options and considerations for treatment. *Spine J*. 2006;6(5):479-87.
- Hernlund E, Svedbom A, Ivergård M, et al. Osteoporosis in the European Union: medical management, epidemiology and economic burden. A report prepared in collaboration with the International Osteoporosis Foundation (IOF) and the European Federation of Pharmaceutical Industry Associations (EFPIA). *Arch Osteoporos*. 2013;8(1):136.
- Camacho PM, Petak SM, Binkley N, et al. American Association of Clinical Endocrinologists and American College of Endocrinology Clinical Practice Guidelines for the diagnosis and treatment of postmenopausal osteoporosis - 2016. *Endocr Pract*. 2016;22(Suppl 4):1-42.

11. Curtis EM, Woolford S, Holmes C, Cooper C, Harvey NC. General and specific considerations as to why osteoporosis-related care is often suboptimal. *Curr Osteoporos Rep.* 2020;18(1):38-46.
12. Del Giorno R, Frumento P, Varrassi G, Paladini A, Coaccioli S. Assessment of chronic pain and access to pain therapy: a cross-sectional population-based study. *J Pain Res.* 2017;10:2577-84.
13. Latina R, De Marinis MG, Giordano F, et al. Epidemiology of chronic pain in the Latium Region, Italy: a cross-sectional study on the clinical characteristics of patients attending pain clinics. *Pain Manag Nurs.* 2019;20(4):373-81.
14. Fornasari D, Gerra G, Maione S, et al. Treatment of chronic pain in Italy: therapeutic appropriacy of opioids and fear of addiction. The situation in Italy vs. USA. *Pharmadvances.* 2020;2(1):31-40.
15. Ambrosio F, Finco G, Mattia C, et al; SIAARTI Chronic Non-Cancer Pain Study Group. SIAARTI recommendations for chronic noncancer pain. *Minerva Anesthesiol.* 2006;72(11):859-80.
16. London: National Institute for Health and Care Excellence (NICE); 2021 Apr 7. Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain. <https://www.ncbi.nlm.nih.gov/books/NBK11822/>.

Statements and Declarations

Conflicts of interest/Competing interests: SC, RAI and FF have no conflict of interest to declare. GI has received honoraria from Amgen, Eli Lilly and UCB. FM received honoraria from Menarini, Mundipharma, Molteni, and Grunenthal in the last 2 years. MR has received grants and/or speaker fees from ABBvie, Amgen, BMS, Eli Lilly, Galapagos, Novartis, Pfizer, Menarini, Theramex, and UCB; MR is a consultant to ABBvie and UCB. MLB has received honoraria from Amgen, Bruno Farmaceutici, Calcilytix, Kyowa Kirin, and UCB. MLB has received grants and/or speaker fees from Abiogen, Alexion, Amgen, Amolyt, Amorphical, Bruno Farmaceutici, CoGeDi, Echolight, Eli Lilly, Enterabio, Gedeon Richter, Italfarmaco, Kyowa Kirin, Menarini, Monte Rosa, SPA, Takada, Theramex, and UCB; MLB is a consultant to Aboca, Alexion, Amolyt, Bruno Farmaceutici, Calcilytix, Echolight, Kyowa Kirin, Personal Genomics, and UCB.

Acknowledgements: Medical writing and editorial assistance were provided by Massimiliani Pianta, Laura Brogelli, PhD, Valentina Attanasio, and Aashni Shah (Polistudium, Milan, Italy).

Funding: The Menarini Group offered an unconditioned support to the survey and the editorial activity.

Availability of data and material: All data presented are available from the corresponding author upon reasonable request

Authors' contributions: SC and MLB designed the study. All authors evaluated the results and equally contributed to the manuscript preparation. All authors approved the final version.

Ethics approval: N/A

Consent to participate: N/A

Consent for publication: N/A

Supplementary Material

OSTEOPOROSIS PAIN SURVEY

- a) What is your main specialization?
- b) Do you personally care for patients with osteoporosis?
- c) How long have you been a medical doctor?
- d) How long have you dealt with osteoporosis?
- e) Where do you work?
- f) In which Italian region do you work?
- 1 **How many patients with osteoporosis have you examined in the past 3 months?**
- 2 **What proportion of your patients are osteoporosis patients?**
- 3 **How many patients with fragility fracture have you examined in the past 3 months?**
- 4 **How many of the patients with osteoporosis examined in the past 3 months had pain that could be linked to osteoporosis?**
- 5 **How many patients with osteoporosis and a diagnosed fracture have you examined in the past 3 months?**
- 6 **Among patients with osteoporosis, indicate the percentages (0%, 1–10%, 11–30%, 31–50%, >50%) with:**
 - Mild-moderate acute pain (for 1 month)
 - Moderate-serious acute pain (for 1 month)
 - Sub-acute pain (for 1–3 months)
 - Chronic pain (for ≥3 months)
- 7 **Among patients with osteoporosis with diagnosed fracture, indicate the percentages (0%, 1–10%, 11–30%, 31–50%, >50%) with:**
 - Mild-moderate acute pain (for 1 month)
 - Moderate-serious acute pain (for 1 month)
 - Sub-acute pain (1–3 months)
 - Chronic pain (for ≥3 months)
- 8 **When acute spine pain or pain exacerbation occurs in patients with osteoporosis, after X-ray, what do you usually do?**
 - Follow up the patient personally
 - Refer the patient to the emergency department
 - After assessment of pain, refer the patient to a center for pain management
 - For the choice of treatment, refer the patient to their family physician, who has a global view of the patient
 - Advise referral to a specialist (in anesthesia, gerontology, physiatry and rehabilitation, neurosurgery, orthopedics, rheumatology, interventional radiology, or oncology)
- 9 **Do you assess pain in the patient with osteoporosis?**
- 10 **How often do you use the following methods of pain assessment? (always, often, quite often, sometimes, never)**
 - History and physical examination
 - NRS
 - VAS
 - Other scales
 - Response to the analgesic therapy
- 11 **In what proportion of patients with osteoporosis and acute or exacerbated pain of the spine is the pain associated with the following causes? (0%, 1–10%, 11–30%, 31–50%, >50%)**
 - Degenerative diseases of the spine
 - Fragility fracture
 - Other
- 12 **When the patient with osteoporosis has acute or exacerbated pain of the spine, the first intervention is:**
 - Analgesic treatment
 - Reappraisal of the anti-osteoporotic treatment, if currently used
 - Non-pharmacological/rehabilitation treatment
- 13 **For the treatment of acute or exacerbated pain of the spine in the patient with osteoporosis, how often do you use the following treatments? (always, often, quite often, sometimes, never)**
 - Anti-depressants/antiepileptic drugs
 - COX-2 selective inhibitors
 - NSAIDs
 - NSAIDs + opioids
 - Anti-osteoporotic drugs
 - Acetaminophen
 - Non-pharmacological treatments
 - Other
- 14 **How important are each of the following criteria for the choice of the treatment for acute or exacerbated pain of the spine in the patient with osteoporosis? (not important, of little importance, important, very important, I have no opinion)**
 - Cause of pain
 - Amount of bone mass loss
 - Type of pain (acute/exacerbated)
 - Comorbidities/polypharmacy
 - Age
- 15 **How important are the following criteria for the assessment of the analgesic treatment? (not important, of little importance, important, very important, I have no opinion)**
 - Diary with daily assessment of pain
 - Physical examination
 - Satisfaction with the analgesic therapy
 - Improvement of functionality/QoL
- 16 **When the treatment of acute or exacerbated pain of the spine in the patient with osteoporosis is ineffective, how often do you choose one of the following? (always, often, quite often, sometimes, never)**
 - Dose increase of the analgesic
 - Association of a drug with the non-pharmacological treatment
 - Shift to a non-pharmacological treatment
 - Association of two or more analgesics
 - Change/adjustment of the anti-osteoporotic treatment
- 17 **What sites are usually affected by pain in patients with osteoporosis? (0–5%, 6–10%, 11–20%, 21–50%)**
 - Spine
 - Shoulders
 - Upper limbs
 - Pelvis
 - Lower limbs
- 18 **How often do you localize acute or exacerbated pain to the spine in patients with osteoporosis? (0–5%, 6–10%, 11–20%, 21–50%)**
 - Recent vertebral fracture
 - Outcomes of a previous vertebral fracture
 - Only osteoporosis
 - Concomitant degenerative diseases
 - Concomitant inflammatory diseases