ARTICLE IN PRESS

International Journal of Osteopathic Medicine xxx (xxxx) xxx

Contents lists available at ScienceDirect

International Journal of Osteopathic Medicine

journal homepage: www.elsevier.com/locate/ijosm

Commentary

Osteopathy: Italian professional profile. A professional commentary by a group of experts of the European community of practice

F. Cerritelli [a,*], C. Lunghi [b,c], J.E. Esteves [a,c,m], P. Vaucher [d,e], P.L.S. van Dun [f,g], G. Alvarez [h,i], M. Biberschick [j], A. Wagner [k], O. Merdy [k], M. Menard [k], P. Tavernier [k], C. Clouzeau [k], A. Risch [l], Nuria Ruffini [l], A. Nunes [m], R. Santiago [m], P. Marett [n], R. Grech [n], O.P. Thomson [o]

[a] Clinical-based Human Research Department, Foundation COME Collaboration, Pescara, Italy
[b] Italian National Centre, Foundation COME Collaboration, Pescara, Italy
[c] Malta ICOM Educational, 95, St. Georges Beach Complex, San Gorg Street, STJ001, San Gilijan, Malta
[d] HES-SO University of Applied Sciences and Arts Western Switzerland, Fribourg, Switzerland
[e] Switzerland National Centre, Foundation COME Collaboration, Fribourg, Switzerland
[f] Belgium National Centre, Foundation COME Collaboration, Mechelen, Belgium
[g] Commission for Osteopathic Research, Practice and Promotion vzw (CORPP), Kon. Astridlaan 148/002, 2800, Mechelen, Belgium
[h] Spain National Centre, Foundation COME Collaboration, Barcelona, Spain
[i] Iberoamerican Cochrane Centre - Biomedical Research Institute Sant Pau (IIB Sant Pau) Barcelona, Spain
[j] Austria National Centre, Foundation COME Collaboration, Österreich, Austria
[k] France National Centre, Foundation COME Collaboration, Paris, France
[l] Germany National Centre, Foundation COME Collaboration, Berlin, Germany
[m] Portugal National Centre, Foundation COME Collaboration, Lisbon, Portugal
[n] Malta Association of Osteopaths, Ta' Xbiex, Malta
[o] Research Centre, University College of Osteopathy, 275 Borough High Street, London, SE1 1JE, UK

ARTICLE INFO

Keywords:
Manipulation
Osteopathic
Professional role
Health occupations
Politics/standards

ABSTRACT

Osteopathy became recently regulated as a healthcare profession in Italy. The Italian legislation classifies osteopathy as a healthcare profession, which focuses on health prevention and maintenance with a role in rehabilitation and functional psychosocial recovery. The legislative framework also lays down the osteopathic professional profile. Osteopaths are described as healthcare practitioners who deliver osteopathic person-centered care focused on the musculoskeletal system and the concept of somatic dysfunction. Despite these positive developments in the legislation for osteopathy, the Italian law raises critical points regarding the validity of osteopathic care models, namely the concept of somatic dysfunction and the role of osteopaths in health promotion and prevention. The legislative developments currently occurring worldwide must be informed by a critical appraisal of osteopathic conceptual models and grounded on robust research. In the article, a panel of European osteopaths involved in clinical and academic practice, research and regulation, present this professional commentary to facilitate a critical discussion on the role, competencies and scope of practice of osteopaths in the light of the recently published Italian osteopathic professional profile.

Introduction

Osteopathy has recently been recognised by Law L. March 2018 and regulated as a health profession in Italy [1]. In Italy, as in other European countries, regulated health professionals need to hold a certain or specific educational level to practice. It may be necessary to take state

* Corresponding author.
E-mail addresses: francesco.cerritelli@gmail.com (F. Cerritelli), christian.lunghi@icomedicine.com (C. Lunghi), jesteves@comecollaboration.org (J.E. Esteves), paul.vaucher@hes-so.ch (P. Vaucher), pvandun@comecollaboration.org (P.L.S. van Dun), gerardalv@gmail.com (G. Alvarez), michael.biberschick@a1.net (M. Biberschick), agathe.wagner17@gmail.com (A. Wagner), omerdy@idheo.com (O. Merdy), menard.m@io-rennes.fr (M. Menard), paola.tavernier@isosteo.com (P. Tavernier), cyril.clouzeau@gmail.com (C. Clouzeau), risch.andreas@freenet.de (A. Risch), nuria.ruff@gmail.com (N. Ruffini), alexandrempnunes@gmail.com (A. Nunes), rui.santiago@gmail.com (R. Santiago), pmarett11@gmail.com (P. Marett), robert@osteopathymalta.com (R. Grech), Oliver.Thomson@uco.ac.uk (O.P. Thomson).

https://doi.org/10.1016/j.ijosm.2021.03.004
Received 5 October 2020; Received in revised form 16 February 2021; Accepted 20 March 2021
Available online 27 March 2021
1746-0689/

Please cite this article as: F. Cerritelli, *International Journal of Osteopathic Medicine*, https://doi.org/10.1016/j.ijosm.2021.03.004

examinations, to apply for recognition of the professional qualifications, and register with a professional body to be eligible to practice Italy [1]. The Italian law refers to the osteopathic regulation as a health profession in possession of three-year university qualifying degree or an equivalent degree. According to what was indicated by law, the core competencies, functions, and activities were defined by writing the professional profile document. All Italian health professionals have their professional profile documents that describe the role of the profession. The Italian osteopathic professional profile (Table 1) was established in order to avoid overlapping the scope of practice with existing health professions (i.e., physiotherapists) and/or their specializations (i.e., manual therapy) [2]. The Italian law recognizes osteopaths as separate health professionals for interventions concerning prevention and maintenance of health through osteopathic treatment of somatic dysfunctions within the musculoskeletal system [2]. The Italian professional profile also reports osteopaths' interprofessional educational actions to implement the rehabilitation and psychosocial functional recovery objectives [2].

Osteopathy is practiced in more than 50 countries [3]; it is worldwide considered as a system of assessment, diagnosis, communication, and hands-on treatment that can be applied across a wide range of medical conditions. The "Glossary of Osteopathic Terminology", define "osteopaths" as persons who have obtained the nationally recognised academic and professional standards within their country to independently practice diagnosis and treatment based upon the principles of osteopathic philosophy [4].

Table 1
Italian osteopathic professional profile [2].

Art. 1
(Defining professionals and their profile)
Osteopaths are health professionals, in possession of a three-year university qualifying degree or an equivalent degree, and are registered in a nationally recognised professional body, and is able to manage independently, or in collaboration with other health professions, health conditions that require interventions for prevention and maintenance of health through osteopathic treatment of somatic dysfunctions not attributable to pathologies, within the musculoskeletal system.
Art. 2
(Areas of activity and competency)
The osteopath, in reference to the diagnosis of medical competence, and the indication to the osteopathic treatment, after having interpreted the clinical data, recognizes the indication or the contraindication to the osteopathic treatment and carries out the osteopathic evaluation through observation, perceptive palpation, and osteopathic tests to identify the presence of clinical signs of somatic dysfunction of the musculoskeletal system. The Osteopath operates in the following ways:
a. Plans osteopathic treatment and prepares methods of treatment by selecting osteopathic approaches and techniques that are exclusively manual, non-invasive, and external, suitable for the patient and the clinical context;
b. Performs osteopathic manipulative treatment safely and with respect for the patient's dignity and sensitivity through specific techniques selected for the individual patient;
c. Evaluates the results of the osteopathic treatment, verifies their appropriateness, and plans the follow-up sharing them with the patient, with possible caregivers, and/or with other health professionals;
e. In order to prevent alterations of the musculoskeletal system, it promotes educational actions towards the subject in treatment, towards the family and the community; educates the patient in the organism's self-management skills and plans the educational path also in collaboration with other professionals; at the end of the treatment it verifies the correspondences between the implemented methodology and the rehabilitation and psychosocial functional recovery objectives; redirects the patient to the sending physician when symptoms persist beyond the scheduled time or worsen.
Art.3
(Domains of practice)
The osteopath carries out professional practice, research, training, continuing professional development, and consultancy activities in public or private social and health services, as an employee or freelance.
Art. 4
(Evaluation of professional experience and equivalence of qualifications)
1. With a subsequent agreement stipulated in the State-Regions Conference, the criteria for evaluating professional experience are identified as well as the criteria for the recognition of the equivalence of qualifications antecedent to the university degree in osteopathy, whose teaching system is defined by decree 'University in agreement with the Minister of Health.

The osteopathic principles are: 1) the human being is a dynamic unit of adaptive function; 2) the body possesses self-regulative mechanisms; 3) structure and function are interrelated at all levels; 4) rational treatment embraces scientific knowledge and is based on these principles [4].

Individual countries establish the national academic and professional standards for osteopaths practicing within their countries. As an example: on the one hand in the United States there are osteopathic physicians with unlimited medical practice rights; on the other hand, osteopaths in most of the European countries are primary contact health providers with little to no access to complementary exams, prescription rights, or ability to provide medical certificates [3].

The key principles for patient management, health promotion, and prevention are incorporated in a shared set of osteopathic core competencies [3,5,6].

Osteopathic principles are open to changes and evolution with up-to-date models evidence-based approaches to better inform the foundational competencies that guide osteopaths in the diagnosis, management, and treatment of their patients [3,7]. One way to define osteopathic care is to observe and survey the scope of practice, [8–14]. Professional activities vary slightly between countries. A recently published survey reported that Italian patients seek osteopathic care mostly for musculoskeletal related complaints [15]. Furthermore, patients recognised osteopath's role in providing advice, education, and biopsychosocial support for health promotion, prevention, and treatment: an experience of care of the unity of body, mind, and spirit [16]. Health promotion and prevention is considered a central component of public health. Concerning the Italian professional profile, osteopathy seems to be the profession that best endorsed the mission of health promotion [2]. However, the Italian regulation, which could be country-specific in terms of osteopathic competencies, opens up a series of questions about the consequence of the profession's identity in other countries. To what extent do osteopaths need to be compatible between European countries [5] to favor mobility? Have other countries included health promotion and prevention as a distinctive character of osteopathic practice? What changes or consequences on the actual healthcare systems could this new definition bring? The consequences of Italian law and the related osteopathic professional profile on the Italian osteopaths' role and the differences in their future practice regarding European colleagues are therefore unknown. Understanding and identifying the underlying principles that could potentially lead to changes in our health system seems essential. To promote discussion on this subject, the COME Collaboration Foundation is calling for a Professional Commentary from European practitioners, educators, and academics to facilitate discussion concerning the recently published Italian osteopath professional profile. The principal researchers (FC, CL) collected international osteopathic experts' [17,18] contributions concerning the osteopathic standard, regulation, and recognition processes in their country to write the present professional commentary (Table 2).

International experts' contributions

In the following paragraphs, 9 answers were collected from the 16 respondents grouped by their own representative country: 1 respondent represents *Austria;* 1 respondent represents Belgium; a working group of 5 respondents represent France; 1 respondent represents Germany; 2 respondents represent Malta; 3 respondents represent Portugal; 1 respondent represents Spain; 1 respondent represents Switzerland; 1 respondent represents the United Kingdom.

Austria

"Osteopathy in Austria is not a recognised profession. There are 500–600 estimated osteopaths, mainly trained healthcare professionals, including physiotherapists and doctors that achieved osteopathic postgraduate Master's qualification [3]. The lobby group of Austrian

Table 2
Professional commentary data collection.

Research stage	Description
Sampling	Purposive sampling was used [17]: during the recruitment, the first contact was established with prospective participants by sending an e-mail to COME Collaboration National Centres delegates to enroll representative 'experts' of different European countries (September 24, 2020).The 'experts' working group consisted of osteopaths, with at least 10,000 h of professional practice in the fields of medical education, scientific research, clinical practice [18]. All potential contributors interested in contributing to the professional commentary on this topic were warmly invited to contact the COME Collaboration Secretariat by email (58 n. members of the COME Foundation), also communicating the necessary expert qualification. The answer to the first e-mail, if the necessary expert qualification was met by the respondents, was considered as the consent to be enrolled in the debate. A second email (December 8, 2020) was then sent to the n. 16 contributors that gave the consent to be enrolled in the professional commentary: the enrolled experts are representatives of Austria (n.1 participant), Belgium (n.1 participant), France (n.5 participant), Germany (n.1 participant), Malta (n.2 participant), Portugal (n.3 participant), Spain (n.1 participant), Switzerland (n.1 participant), United Kingdom (n.1 participant).
Data Collection	An information sheet was attached, reporting an English translation of the Italian osteopath professional profile (Table 1). The researchers also requested the participants to answer a single question on how Italian professional profile main points fit with their country's osteopathic professional identity. Participants had one month to send their contribution (up to 200 words) to the commentary. All participants respected the given deadline. Once all the contributions were collected by the principal researchers (FC, CL), the final paper was written without editing of the received manuscripts.

osteopaths is campaigning for the accreditation of osteopathy to achieve universal, regulated standards for osteopathic training and practice of the osteopathic profession [7]. The Austrian state insurance does not cover osteopathic care in whole or in part. Some private supplementary plans may reimburse costs for such treatment in full or in part, depending on the care program [3,19]. Nowadays there are a few research papers published in indexed Journals by different authors from the Austrian Departments of Physical Medicine and Rehabilitation, as well as Neonatology, Paediatrics, and Adolescent Medicine [20–22]. The published articles are focused on musculoskeletal conditions related to physical-psychological disability and pain (i.e. temporomandibular disorders), as well as on neonatology and pediatrics. One can imply, therefore, that those are the more frequent clinical contexts referred to osteopaths in Austria."

Belgium

"Osteopathy has been recognised as a non-conventional medical practice on April 29th, 1999 by the Colla law [23]. Although this law was issued more than 20 years ago, it is still not in force due to the lack of the Royal decrees. The required qualification to practice osteopathy, proposed by the Chamber of Osteopathy, with representatives of osteopathic professional associations and of the different Flemish and French-speaking medical faculties, is a Master in Science in osteopathy delivered by a state-accredited public university [24]. Most osteopaths in Belgium have a prior degree in physiotherapy and the vast majority work as independents in a private clinic. The osteopath has been described as a specialist of functional disorders, algetic, and disease symptoms. Their diagnostic and therapeutic approach is mainly manual. In addition to the large majority of indications that can be found within the musculoskeletal system [25], the osteopath can also be consulted for functional disorders of a non-musculoskeletal nature [25–27]. The notion "somatic dysfunction" is not mentioned in the Professional Competency Profile for Osteopathy, only in its introductory text [26]. Osteopathic care includes medical anamnesis, investigation and examination, curative and preventive treatment, health education, and counseling [26]. In the list of the competency profile itself, prevention was mentioned as a competency in the 'osteopathic expert' role. In addition to the purely curative character, every osteopath must provide information on health matters at an individual and societal level, taking into account his preventive and educational aspects [26]; while rehabilitative tasks are considered as competencies reserved for the physiotherapist profession." [28].

France

"Osteopathy has been recognised in France by law. Decrees dated 2007 and 2014 regulate practice and education [29,30]. Osteopaths are not health professionals, they are accredited to carry out musculoskeletal and myofascial manual manipulations to prevent or remedy functional disorders of the human body except for organic pathologies requiring therapeutic, medical, surgical, medicinal, or physical agent interventions [1]. The osteopath, in a systemic approach, following osteopathic diagnosis, carries out mobilizations and manipulations to manage the somatic dysfunctions of the human body [31]. The prevention aspect is included in the described role of the professionals [30]. All osteopathic treatments are in accordance with the recommendations for good practice established by the French High Authority for Health. However, osteopathic care is not part of the public healthcare system: access to care is not conditioned by referral from a general practitioner and only private insurance companies can refund osteopathic care [32]. The osteopathic teaching curriculum has been regulated since 2014: osteopathy can only be taught by accredited private institutions during a five-year-full-time curriculum (4860 h) [30]. Due to their previous training, health professionals benefit from several exemptions – for example, the number of hours of training required for physiotherapists is 1900 h. Osteopathic training includes 7 Teaching Units. Students have to complete 1500 h of clinical practice and produce a dissertation." [30].

Germany

"The practice of medical science, as well as complementary and alternative medicine (CAM), is recognised in Germany by one single law which enables physicians to practice both and naturopaths to practice CAM [33]. These 2 professions are legally entitled to practice osteopathy as a healing art in a primary contact fashion and in its full scale like described in the benchmarks of osteopathy [34]. In this context osteopathy is considered to be a complementary and alternative medicine but not a single health profession. So from a legal point of view, there are no osteopaths in Germany but different professions practicing Osteopathy. Although still viewed with some critical eye by medical doctors, the mentioned colleagues practicing Osteopathy are beginning to establish themselves in the healthcare system as a bridge between the medical specialists in their fields and the alternative or complementary care providers [35]. Even statutory health insurance companies have started in 2012 to reimburse their members partially for osteopathic treatments. Non-medical osteopathic associations want to establish Osteopathy as a single standing independent health profession next to the medical professions and the naturopaths being able to provide osteopathic care in its full scope in a cooperative manner with other health professions [3,36]. While physiotherapy associations want Osteopathy to become part of their profession."

Malta

"Osteopathy is a recognised Health Care profession regulated in Malta by the Council for Professions Complementary to Medicine [37]. Regulation is according to the Health Care Professions Act edited in 2003 [38]. The nature of regulation groups all professions including osteopathy under the umbrella 'Complementary to Medicine' which

implies that these are not performed by Medical Doctors but complement their work [38]. There are no limitations nor any specifications as to whether the osteopath can treat or 'prevent'. Reference is made to the code of practice document [38] in which the registered practitioner is ethically responsible to abide by. From the same document: "As a primary healthcare professional, the osteopath should refer to other health care professionals if deemed necessary." There is no reference to 'somatic dysfunctions' anywhere in the legislation. There are also no published guidelines relating to osteopathic practice directly. The sub-committee is working on a benchmarking document and this is still in process.

The Code of Practice Document [39] reads as follows: "Based on detailed clinical case history and analysis, a working diagnosis and treatment plan should be formulated by the osteopath. The working diagnosis should also be based on clinical investigations and special tests performed." There are similarities in that: 1. collaboration between other health care professions, 2. Plan of treatment/care 3. Refer to clinical investigations and special tests."

Portugal

"In 2013 osteopathy became a recognised primary contact healthcare profession in Portugal [40]. Osteopathy is part of a group of professions defined as 'Non-Conventional Therapies', which include Acupuncture, Homeopathy, Naturopathy, Traditional Chinese Medicine, Chiropractic, and Herbal Medicine. Osteopathy is primarily defined with a neuro-musculoskeletal vocation, but no specific boundaries have been imposed. According to the osteopathic principle, the approach to the musculoskeletal system is considered one of the windows to improve holistic health. Osteopaths are free to work within any area of clinical practice such as prevention, rehabilitation, or pediatrics. However, osteopathy is not yet in the Portuguese National Health System, and therefore osteopaths are primarily working in the private sector, including hospitals and multidisciplinary clinics. As part of the statutory regulatory process, the future entry into the profession is dependent on the completion of a 4-year full-time bachelor's degree which represents 240 ECTS credits. Four major areas were defined: Fundamental sciences (45 ECTS), Clinical technique sciences (45 ECTS), principles of osteopathy (90 ECTS) and practice of osteopathy (60 ECTS). It is also mandatory for the conclusion of at least 1000 h of clinical supervised practice. The government recognised undergraduate degree programs will be producing their first graduates in July 2020. Regarding the professionals who were already in clinical practice before the law was passed in parliament, the government introduced a transitional period which is still ongoing until 2025 for all the Non-Conventional-Therapies - some professionals who fulfilled approved criteria received a permanent professional license, while others received a temporary license, and others no license. This period, specifically for Osteopathy, will end in July 2020, and after this, only full graduates achieved the professional license. However, it is still necessary for the Government to publish the criteria for those who have a temporary license to be able to acquire a permanent license." [40].

Spain

"To date, osteopathy is not recognised in Spain as a healthcare professional as its not included in the Law of Arrangement of the Sanitary Professions [41]. Only the Ministerial Order (2135/2008) [42] that establishes the educational curriculum of the physiotherapy degree mentions osteopathy as a technique that undergraduates shall know. However, both the standards and scope of practice of osteopathy in Spain lack formal recognition in the regulatory and legislative domains [42]. This 'lawless' situation has thereby fostered the emergence of numerous qualifications and professional associations representing different groups of osteopaths although the most representative is those osteopaths with a prior degree in physiotherapy [8,43]. The typical patient who receives osteopathic care in Spain is middle-aged and voluntarily seeks osteopathic treatment. However, referrals were also provided by health professionals like general practitioners, physiotherapists, orthopedic consultants, or podiatrists. The most frequent presentations are those related to spinal complaints either in acute or chronic stages [8,43]. The Spanish Federation of Osteopaths (FOE) [44], a body that joins three professional associations which members are required to meet the international and European standards, represents Spain within the European Forum and Federation of Osteopaths (EFFO) [45]. Although osteopathy is not recognised as a healthcare profession in Spain, osteopaths (most of them also physiotherapists) do treat patients in the first intention [8,43]. Musculoskeletal conditions are the most frequently seen by Spanish osteopaths [8,43]. Osteopaths in Spain are engaged with educational practice and other activities that complement the osteopathic treatment. They show a willingness to participate with other healthcare professionals in order to offer multidisciplinary care to patients." [3,8]

Switzerland

"In 2017, osteopathy was included in the new Federal law on allied health professions in Switzerland [46]. Osteopathy is recognised as a primary care profession capable of managing patients regardless of their bio-psycho-social conditions. The required qualification to practice is a Master in Science in osteopathy delivered by a state-accredited public applied university. Like dentistry, osteopathic care is covered by private complementary health insurance. Osteopathic practitioners mostly work as independents and have an important role in musculoskeletal and functional disorder management in the Swiss public health system [47]. In the Swiss law, osteopathic care is not restricted to the musculoskeletal system and osteopaths are authorized to provide care for other conditions such as unsettled crying, gastro-œsophage reflux, dysmenorrhea, migraine, fatigue, etc. [47] Furthermore, the law does not restrict care to the somatic system but specified that osteopaths also manage psycho-social dimensions of health. Osteopathic care includes medical investigation and examination, manual care, health education, prevention, and counseling. Practitioners are expected to know why and when to refer patients for alternative medical care. An osteopath is capable of managing patients with health conditions that require preventive or conservative care either independently or in collaboration with other health professionals. The scope of practice includes preventive and conservative care as long as it improves or consolidates the patient's functional and structural integration. Like all other health professionals, osteopaths are required to verify that their treatment is efficient and in line with up-to-date scientific knowledge."

United Kingdom

"In the United Kingdom, the Osteopathic profession is recognised by law as an Allied Health Professions [48]. The General Osteopathic Council regulates osteopathic practice to promote patient safety by registering qualified professionals and setting, maintaining, and developing osteopathic practice and conduct standards [49]. The osteopathic practice standards (OPS) [50] detail the expectations, the code of practice, and the competencies: communication and patient partnership; knowledge, skills, and performance; safety and quality in practice; professionalism [50]. Osteopathic professional work is centered on the principles and applications of scientific inquiry, osteopathic philosophy, principles, and concepts of health, illness, and disease. The professionals must understand human structure and function, of biomechanics' principles, of the biological, psychological, and social influences on health [50]. The well-developed palpatory skills, the ability to interpret clinical findings, and critically evaluate scientific information and data are required to inform osteopathic non-invasive care [50]. Unlike the Italian professional profile, the OPS does not explicitly mention Somatic Dysfunction as a clinical sign of the musculoskeletal system. Osteopaths

are considered for the prevention and maintenance of health and to diagnose and treat a wide variety of medical conditions [48]. They are primary healthcare professionals who can refer the patients to another qualified healthcare professional when needed [50]. The main reason to consult an osteopath in the United Kingdom are mainly acute and chronic musculoskeletal pain, with some additional systemic symptoms and comorbidities." [51].

Discussion

Osteopathic practitioners share a set of core competencies that guide them in their patients' diagnosis, management, and treatment of a person's structure, function, that can be applied for individual well-being, as well as across various medical conditions [3]. According to renovated tenets that support person-centered and evidence-based models, osteopathic care favor the body systems to function to maintain equilibrium and avoid disease [52]. Recent systematic review [53] and survey study [54] reported positive osteopathic patient experience and satisfaction outcomes. The findings reported in the mentioned studies [54,55] are coherent with a person-centered care conceptual model, actually challenged for European osteopathy [7]. However, patients' values, needs, and expectations need to be more considered in the process of osteopathic care, especially if the primary role of the profession in Italy will be the prevention; including health promotion, providing appropriate support services to reduce recurrences or exacerbations of patient conditions, minimizing morbidity, and maximizing the quality of life. Osteopathy is today considered a practical recommendation to be done to patients with low back pain, in order, decreased pain, improved function, and decreased medication use [55,56]. Medium to large effects of treatment during the third trimester of pregnancy in preventing progressive back-specific dysfunctions are also reported [56,57]. The findings are potentially significant in terms of direct health care expenses and indirect labor disability costs during pregnancy. Despite encouraging findings in different clinical contexts, the available data show inferior significance to compel a high recommendation for other conditions than low back pain. A cohort study indicates that osteopathic manipulative treatment may change the progression of recurrent otitis media [58]. Another cohort study recorded a statistically significant decrease in the annual cumulative incidence of stress fractures among male, but not female, cross-country athletes after osteopathic manipulative treatment [59]. A systematic review suggests that osteopathy can reduce secondary reactivation pain episodes and related disability in adults with headaches [60]. A non-randomized trial showed that could be implemented in cardiovascular disorders secondary prevention: patients affected by hypertension had an improvement in intima-media, and systolic blood pressure also maintained one year after osteopathic manipulative treatment [61]. Besides, osteopathy is now proposed as a treatment method for lowering allostatic loads, which can help facilitate homeostasis and reduce the accelerated risk of disease, or disease evolution in most patients with stress in their daily lives [62–68].

Health prevention and maintaining show to be the main competencies of the recent Italian osteopath professional profile draft. A few strengths are considered related to the Italian recognition process: it recognizes an essential role of osteopathic care in the public health system, also integrating osteopathic principles, and diagnosis, and treatment of somatic dysfunction as public health opportunities. The coding of somatic dysfunction into the International Classification of Diseases [69] could represent both an excellent opportunity or a disadvantage in defining the role of osteopathic care. On the one hand, the document's contents are globally used diagnostic tools for epidemiology, health management, and clinical purposes. On the other hand, there is no clear definition of this osteopathic diagnostic clinical entity [70]. An updated evidence-informed model is needed to define better and share a novel concept of somatic dysfunction in the worldwide community of practice. Also, to be explained to all the health professions and improve interprofessional practice. Thanks to the regulation of the profession, osteopaths could provide support to the population for musculoskeletal complaints before these affect the quality of life in the longer term.

There are also related weaknesses aspects to be mentioned, such as the increased health costs due to ineffective prevention policies, first of all, because there is a lack of evidence on the real benefits of osteopathic care in preventing chronic conditions.

The proposed professional profile mainly focused on prevention tends to limit osteopathic practice to patients without any pathology. It could limit the scope of practice to health promotion, without clearly providing a rationale to justify the specificity of the profession in doing so. It is a shared statement referring to Osteopathy as a patient centered approach to treating the whole person rather than just the symptoms. Focusing on preventive health care, osteopaths help patients develop habits and behaviors that overcome disease and help prevent it. To reinforce such a role for the profession, the community of practice must carry on with a research road map with different stages of well-designed studies [7]. Results can clarify the osteopathic professionals' contribution to the entire body of the prevention field, including secondary and tertiary prevention for fragile people with severe chronic conditions [7]. Besides, the osteopathic training reported in the Italian osteopathic professional profile defines a three years course to become an osteopath: this is not coherent with the indication of the European standards [5] and the World Health Organization benchmark [6]. The comments received from the European contributors to this commentary, let emerged some difference in the status and/or in the character of the regulation of the profession in the different European countries. All Italian health professionals who achieved the Italian three-year degree can have recognised their professional qualifications in other European countries [71]. The same Directive 2005/36/EC concerning the recognition and regulations of professional qualifications will probably be applied for Italian osteopaths [71]. The Italian legislation may not affect the mobility of osteopaths working in different jurisdictions in Europe, but it will be fundamental to align the upcoming Italian curriculum with existing European osteopathic curricula. Italian universities delivering osteopathic education in a near future should therefore align their osteopathic curricula with the other European osteopathic education programmes. Educators and researchers should investigate whether the length of training and the curricular structure and content of existing osteopathic education programmes in Europe provide the conditions that facilitate the successful acquisition of competencies required for osteopathic clinical practice. Research should, for example, investigate the curricular content on health determinants that relate to the prevention and treatment of non-communicable diseases [72]. Although osteopaths are by and large competent in educating patients on basic nutrition, physical activity, sleep and stress reduction, more attention to evidence-based health promotion is required [72,73]. It is also critical that educators eliminate unvalidated osteopathic concepts (e.g., osteopathic lesion) from mainstream osteopathic training and practice [69,74]; some of these old concepts should only be taught from an historical perspective and with a high degree of critical evaluation. Educators should try and eliminate from osteopathic curricula, images of unique diagnostic entities that only detectable by the practitioner; instead they should try and integrate the patient perspective on their health status and their determinants in the osteopathic assessment [72]. Moreover, it is critical that an updated and shared definition of somatic dysfunction and other osteopathic concepts are developed [7]. The osteopathic community of practice has to confront varying ideologies and the paucity of high quality research on prevention and maintenance of health in osteopathy. Osteopaths have to implement shared decision making and patient-centered care tenets in the clinical setting to deliver primary, secondary and tertiary prevention activities. Validated tools such as patient-reported outcome measures could help clinicians elicit patients' views of their symptoms, functional status, and health-related quality of life [75]. Allied health care providers can play a key role in the

management of sickness absence and prevention by extension when these practices are supported by legislation [76].

However, in cases where such practices are not regulated, practitioners are limited in fulfilling a more integrated role as providers of prevention practices. Maintenance care of manual therapies may be considered a means of conducting secondary or tertiary prevention in patients with previous episodes of low back pain, who show good results from initial treatments [77]. Such findings should not, however, be taken as an indicator for all patients seeking manipulative treatment for preventive care. Notwithstanding some positive findings in terms of prevention, published studies in the field of osteopathy are of insufficient quality and quantity for policy and practice information. To build a pragmatic evidence base for osteopathy, high quality, well-designed, research that aligns with international best practices is very much needed.

Conclusion

In the present commentary, participants representing European countries presented their report on the similarities and differences between the Italian and their nation's Professional Profile for Osteopathy. The osteopathic profession's Italian legislation focuses on preventing and maintaining health through osteopathic care aimed at the correction of somatic dysfunctions in the musculoskeletal system, which are not attributable to pathologies. This focus could be at odds with other countries where the profession is regulated. It presents problems due to the limitations in the osteopath's scope of practice to musculoskeletal disorders. Moreover, the Italian law raises critical points regarding the validity of osteopathic care models, namely the concept of somatic dysfunction and the role of osteopaths in health promotion and prevention. The legislative developments currently occurring worldwide must be informed by a critical appraisal of osteopathic conceptual models and grounded on robust research. A pan-European curriculum alignment is required to avoid affecting the mobility of osteopaths working in various jurisdictions in Europe.

Emergent results will promote discussion into European communities of practitioners, educators, researchers, and academics to debate a common and "across boundaries" role for the osteopathic profession.

Authors' contributions

FC and CL designed the methodology of the debate and wrote the introduction of the Professional Commentary paper. PV, PLSvD, GA, MB, AW, OM, MM, PT, CC, AR, AN, RS, JE, PM, RG, OT wrote their own part of the commentary discussion. FC and CL wrote and reviewed the paper conclusion for important intellectual content. All authors read and approved the final manuscript.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

[1] Gazzetta ufficiale della Repubblica italiana (G.U.) anno 159° - numero 25. 3 Gennaio 2018. p. 10. https://www.gazzettaufficiale.it/eli/gu/2018/01/31/25/sg/pdf. [Accessed 25 September 2020].

[2] Conferenza permanente per i rapporti tra lo Stato, le Regioni e le Province autonome di Trento e Bolzano. Proposta di accordo ai sensi dell'articolo 4 del Decreto legislativo 28 Agosto 1997, n. 281, tra il Governo, le Regioni e le Province autonome di Trento di Bolzano concernente l'istituzione della professione sanitaria dell'Osteopatia ai sensi dell'articolo 7 comma 2 della Legge 11 gennaio 2018, n. vol. 3. [http://www.quotidianosanita.it/allegati/allegato1162369.pdf Accessed 25/09/2020] .

[3] Osteopathic International Alliance (OIA). Osteopathy and Osteopathic Medicine: a global view of practice, patients, education and the contribution to healthcare delivery. 2020. http://oialliance.org/wp-content/uploads/2014/01/OIA-Stage-2-Report.pdf. [Accessed 25 September 2020].

[4] American Association of Colleges of OsteopathicMedicine (AACOM). Glossary of Osteopathic Terminology. AACOM; 2017. https://www.aacom.org/docs/default-source/default-document-library/glossary2017.pdf?sfvrsn=a41c3b97. [Accessed 25 September 2020].

[5] CEN. 1 vols. 1. Osteopathic healthcare provision EN 16686:2015, vol. 1. Bruxel: Europeean Committee for Standardization; 2015. https://www.osteopathy.org.uk/news-and-resources/document-library/about-the-gosc/council-may-2015-item-15a-annex-a-final-draft-cen-standard/. [Accessed 27 November 2020].

[6] World Health Organisation. Benchmarks for training in traditional/complementary and alternative medicine: benchmarks for training in osteopathy. WB940. Geneva: WHO; 2010. http://apps.who.int/medicinedocs/documents/s17555en/s17555en.pdf. [Accessed 25 September 2020].

[7] Esteves JE, Zegarra-Parodi R, van Dun P, Cerritelli F, Vaucher P. Models and theoretical frameworks for osteopathic care – a critical view and call for updates and research. Int J Osteopath Med 2020;35:1–4. https://doi.org/10.1016/j.ijosm.2020.01.003.

[8] Alvarez Bustins G, López Plaza PV, Carvajal SR. Profile of osteopathic practice in Spain: results from a standardized data collection study. BMC Compl Alternative Med 2018;18(1):1–10. https://doi.org/10.1186/s12906-018-2190-0.

[9] Burke SR, Myers R, Zhang AL. A profile of osteopathic practice in Australia 2010-2011: a cross sectional survey. BMC Muscoskel Disord 2013;14(1):227. https://doi.org/10.1186/1471-2474-14-227.

[10] Cerritelli F, van Dun PLS, Esteves JE, Consorti G, Sciomachen P, Lacorte E, Vanacore N, OPERA-IT Group. The Italian Osteopathic Practitioners Estimates and RAtes (OPERA) study: a cross sectional survey. PLoS One 2019;14(1):e0211353. https://doi.org/10.1371/journal.pone.0211353.

[11] Morin C, Aubin A. Primary reasons for osteopathic consultation: a prospective survey in Quebec. PLoS One 2014;9(9):e106259. https://doi.org/10.1371/journal.pone.0106259.

[12] Fawkes CA, Leach CM, Mathias S, Moore AP. A profile of osteopathic care in private practices in the United Kingdom: a national pilot using standardised data collection. Man Ther 2014;19(2):125–30. https://doi.org/10.1016/j.math.2013.09.001.

[13] Johnson JC, Degenhardt BF. Who uses osteopathic manipulative treatment? A prospective, observational study conducted by DO-Touch.NET. J Am Osteopath Assoc 2019;119(12):802. https://doi.org/10.7556/jaoa.2019.133.

[14] Vogel S, Herrick R. Service delivery characteristics of UK osteopaths–a cross sectional survey. Int J Osteopath Med 2008;11(4):153. https://doi.org/10.1016/j.ijosm.2008.08.007.

[15] Cerritelli F, Consorti G, van Dun PLS, Esteves JE, Sciomachen P, Valente M, Lacorte E, Vanacore N, OPERA-IT Group. The Italian osteopathic practitioners estimates and RAtes (OPERA) study: how osteopaths work. PLoS One 2020;15(7):e0235539. https://doi.org/10.1371/2Fjournal.pone.0235539.

[16] Consorti G, Marchetti A, De Marinis MG. What makes an osteopathic treatment effective from a patient's perspective: a descriptive phenomenological study. J Manip Physiol Ther 2020;43(9):882–90. https://doi.org/10.1016/j.jmpt.2020.02.003.

[17] Maxwell JA. Designing a qualitative study. In: Bickman L, Rog DJ, editors. The SAGE handbook of applied social research methods. London: Sage; 2009.

[18] Ericsson KA, Prietula MJ, Cokely ET. The making of an expert. Harv Bus Rev 2007;85(7e8):114e21–93.

[19] Austrian Association of Osteopathy (OEGO). 2020. [https://www.oego.org/Accessed 25/09/2020].

[20] Haiden N, Pimpel B, Kreissl A, Jilma B, Berger A. Does visceral osteopathic treatment accelerate meconium passage in very low birth weight infants?-A prospective randomized controlled trial. PLoS One 2015;10(4):e0123530. https://doi.org/10.1371/journal.pone.0123530.

[21] Raith W, Marschik PB, Sommer C, Maurer-Fellbaum U, Amhofer C, Avian A, Urlesberger B. General Movements in preterm infants undergoing craniosacral therapy: a randomised controlled pilot-trial. BMC Compl Alternative Med 2015;16(1):12. https://doi.org/10.1186/s12906-016-0984-5.

[22] Gesslbauer C, Vavti N, Keilani M, Mickel M, Crevenna R. Effectiveness of osteopathic manipulative treatment versus osteopathy in the cranial field in temporomandibular disorders–a pilot study. Disabil Rehabil 2018;40(6):631–6. https://doi.org/10.1080/09638288.2016.1269368.

[23] Wet betreffende de niet-conventionele praktijken inzake de geneeskunde, de artsenijbereidkunde, de kinesitherapie, de verpleegkunde en de paramedische beroepen. 2020. http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?language=nl&la=N&cn=1999042968&table_name=wet. [Accessed 25 September 2020].

[24] Advies K3 van de Kamer voor osteopathie van 12 juni 2012 betreffende het opleidingsniveau om het vereiste profiel in de osteopathie te behalen. 2012. https://overlegorganen.gezondheid.belgie.be/sites/default/files/documents/paritaire_commissie_voor_de_niet-conventionele_praktijken/19083674.pdf. [Accessed 25 September 2020].

[25] van Dun PLS, Nicolaie MA, Van Messem A. State of affairs of osteopathy in the Benelux: Benelux osteosurvey 2013. Int J Osteopath Med 2016;20:3–17. https://doi.org/10.1016/j.ijosm.2016.01.003.

[26] van Dun PLS. Beroepscompetentieprofiel osteopathie. Brussel: Groepering Nationaal en Representatief van de Professionele Osteopaten vzw (GNRPO vzw); 2010. p. 19–35. https://doi.org/10.13140/RG.2.1.3413.3841.

[27] van Dun P, Dobbelaere E, Simons E. Une étude quantitative mesurant la connaissance et l'image de l'ostéopathie en Belgique pour le compte de l'Union Professionnelle des Ostéopathes de Belgique. Bruxelles: (UPOB-BVBO); 2020. 452.394.538/iVOX.2020.

[28] Kamer osteopathie/2012/ADVIES-K5. Advies van de Kamer voor osteopathie betreffende de lijst met niet-toegestane en toegestane handelingen voor de osteopaten. 2012. https://organesdeconcertation.sante.belgique.be/sites/default/files/documents/paritaire_commissie_voor_de_niet-conventionele_praktijken-fr/19083694_fr.pdf. [Accessed 25 September 2020].
[29] Décret n° 2007-435 du 25 mars 2007 relatif aux actes et aux conditions d'exercice de l'ostéopathie. 2007. https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000462001. [Accessed 25 September 2020].
[30] Décret n° 2014-1505 du 12 décembre 2014 relatif à la formation en ostéopathie. 2014. https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000029894161&categorieLien=id. [Accessed 25 September 2020].
[31] Ménard M, Draper-Rodi J, Merdy O, Wagner A, Tavernier P, Jacquot E, Mhadhbi H. Finding a way between osteopathic principles and evidence-based practices: response to Esteves et al. Int J Osteopath Med 2020;37:45–7. https://doi.org/10.1016/j.ijosm.2020.07.006.
[32] Syndicat Français des Ostéopathes (SFDO). 2020. [https://www.osteopathe-syndicat.fr/osteopathe-etudes Accessed 25/09/2020].
[33] Gesetz über die berufsmäßige Ausübung der Heilkunde ohne Bestallung. (Heilpraktikergesetz). 2020. [https://www.gesetze-im-internet.de/heilprg/BJNR002510939.html Accessed 25/09/2020]. .
[34] World Health Organization (WHO): Benchmarks for training in osteopathy. 2010. [http://www.who.int/medicines/areas/traditional/BenchmarksforTraininginOsteopathy.pdf Accessed 25/09/2020]. .
[35] Deutsche Gesellschaft für Osteopathische Medizin. 2020. [https://www.dgom.info/files/pdf/stellungnahme_facharzt_om.pdf Accessed 25/09/2020]..
[36] Forum for Osteopathic Regulation in Europe: Regulation of Osteopathy in Europe. 2020. [https://www.forewards.eu/Accessed 25/09/2020]. .
[37] Council for Professions Complementary to Medicine. 2020. [https://deputyprimeminister.gov.mt/en/regcounc/cpcm/Pages/cpcm.aspx Accessed 25/09/2020] .
[38] Health Care Professions Act 2003. 2020. [https://legislation.mt/eli/cap/464/eng/pdf Accessed 25/09/2020].
[39] Council for Professions Complementary to Medicine. Code of practice. Osteopathy. 2020. [https://deputyprimeminister.gov.mt/en/regcounc/cpcm/Documents/Osteopathy%20Code%20of%20Practice.pdf Accessed 25/09/2020] .
[40] Regulamenta a Lei n.° 45/2003, de 22 de agosto, relativamente ao exercício profissional das atividades de aplicação de terapêuticas não convencionais. 2003. https://dre.pt/pesquisa/-/search/499569/details/maximized. [Accessed 25 September 2020].
[41] Ley 44/2003, de 21 de noviembre, de ordenación de las profesiones sanitarias. 2020. http://noticias.juridicas.com/base_datos/Admin/l44-2003.html. [Accessed 25 September 2020].
[42] European regulated profession database. 2020. https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id_regprof=460. [Accessed 25 September 2020].
[43] Alvarez G, Roura S, Cerritelli F, Esteves JE, Verbeeck J, van Dun PLS. The Spanish Osteopathic Practitioners Estimates and RAtes (OPERA) study: a cross-sectional survey. Wilkinson J, ed. PloS One 2020;15(6):e0234713. https://doi.org/10.1371/journal.pone.0234713.
[44] Federation of Osteopaths of Spain. http://www.federacionosteopatas.com/?lang=en. [Accessed 25 September 2020].
[45] European Federation and Forum for Osteopathy (EFFO). https://www.effo.eu/. [Accessed 25 September 2020].
[46] Forum for Osteopathic Regulation in Europe: Regulation of Osteopathy in Switzerland. https://www.forewards.eu/regulation/switzerland/. [Accessed 25 September 2020].
[47] Vaucher P, Macdonald RJ, Carnes D. The role of osteopathy in the Swiss primary health care system: a practice review. BMJ open 2018;8(8):e023770. https://doi.org/10.1136/bmjopen-2018-023770.
[48] National Health Service (NHS). The 14 allied health professions. Osteopaths 2020. https://www.england.nhs.uk/ahp/role/#osteo. [Accessed 24 September 2020].
[49] General Osteopathic Council (GOsC). https://www.osteopathy.org.uk/home/. [Accessed 25 September 2020].
[50] General Osteopathic Council. Osteopathic practice standards. 2020. https://standards.osteopathy.org.uk/. [Accessed 25 September 2020].
[51] Fawkes CA, Leach CM, Mathias S, Moore AP. A profile of osteopathic care in private practices in the United Kingdom: a national pilot using standardised data collection. Man Ther 2014;19(2):125–30. https://doi.org/10.1016/j.math.2013.09.001.
[52] Bowers RJ. Somatic hygiene: osteopathic manipulative medicine as preventive treatment. J Am Osteopath Assoc 2013;113(3):251.
[53] Lam MT, Banihashem M, Lam HR, Wan AB, Chow E. Patient experience, satisfaction, perception and expectation of osteopathic manipulative treatment: a systematic review. Int J Osteopath Med 2019;32:28–43. https://doi.org/10.1016/j.ijosm.2019.04.003.
[54] Tramontano M, Martino Cinnera A, Petracca M, Gaeta A, Tamburella F, Audouard M, Caltagirone C. Outpatient satisfaction with osteopathic manipulative treatment in a hospital center: a survey. Alternative Ther Health Med 2018;24(5):18–24.
[55] Slattengren AH, Nissly T, Blustin J, Bader A, Westfall E. Best uses of osteopathic manipulation. J Fam Pract 2017;66(12):743–7.
[56] Franke H, Franke JD, Fryer G. Osteopathic manipulative treatment for nonspecific low back pain: a systematic review and meta-analysis. BMC Muscoskel Disord 2014;15:286. https://doi.org/10.1186/1471-2474-15-286.
[57] Licciardone JC, Aryal S. Prevention of progressive back-specific dysfunction during pregnancy: an assessment of osteopathic manual treatment based on Cochrane Back Review Group criteria. J Am Osteopath Assoc 2013;113(10):728–36. https://doi.org/10.7556/jaoa.2013.043.
[58] Degenhardt BF, Kuchera ML. Osteopathic evaluation and manipulative treatment in reducing the morbidity of otitis media: a pilot study. J Am Osteopath Assoc 2006;106(6):327–34.
[59] Brumm LF, Janiski C, Balawender JL, Feinstein A. Preventive osteopathic manipulative treatment and stress fracture incidence among collegiate cross-country athletes. J Am Osteopath Assoc 2013;113(12):882–90. https://doi.org/10.7556/jaoa.2013.066.
[60] Cerritelli F, Lacorte E, Ruffini N, Vanacore N. Osteopathy for primary headache patients: a systematic review. J Pain Res 2017;10:601–11. https://doi.org/10.2147/JPR.S130501.
[61] Cerritelli F, Carinci F, Pizzolorusso G, Turi P, Renzetti C, Pizzolorusso F, Orlando F, Cozzolino V, Barlafante G. Osteopathic manipulation as a complementary treatment for the prevention of cardiac complications: 12-Months follow-up of intima media and blood pressure on a cohort affected by hypertension. J Bodyw Mov Ther 2011;15(1):68–74. https://doi.org/10.1016/j.jbmt.2010.03.005.
[62] Nuño V, Siu A, Deol N, Juster RP. Osteopathic manipulative treatment for allostatic load lowering. J Am Osteopath Assoc 2019;119(10):646–54. https://doi.org/10.7556/jaoa.2019.112.
[63] Nuño V, Siu A, Pierce-Talsma S. Osteopathic manipulative treatment for allostatic load lowering. J Am Osteopath Assoc 2019;119(10):e38–9. https://doi.org/10.7556/jaoa.2019.118.
[64] Saggio G, Docimo S, Pilc J, Norton J, Gilliar W. Impact of osteopathic manipulative treatment on secretory immunoglobulin a levels in a stressed population. J Am Osteopath Assoc 2011;111(3):143–7.
[65] Sampath KK, Katare R, Tumilty S. Stress axis and osteopathy: a dual hormone approach. Int J Osteopath Med 2019;33:24–30. https://doi.org/10.1016/j.ijosm.2019.05.001.
[66] Degenhardt BF, Darmani NA, Johnson JC, Towns LC, Rhodes DC, Trinh C, DiMarzo V. Role of osteopathic manipulative treatment in altering pain biomarkers: a pilot study. J Am Osteopath Assoc 2007;107(9):387–400.
[67] Licciardone JC, Kearns CM, Hodge LM, Minotti DE. Osteopathic manual treatment in patients with diabetes mellitus and comorbid chronic low back pain: subgroup results from the OSTEOPATHIC Trial. J Am Osteopath Assoc 2013;113(6):468–78.
[68] Henley CE, Ivins D, Mills M, Wen FK, Benjamin BA. Osteopathic manipulative treatment and its relationship to autonomic nervous system activity as demonstrated by heart rate variability: a repeated measures study. Osteopath Med Prim Care 2008;2:7. https://doi.org/10.1186/1750-4732-2-7.
[69] World Health Organization (WHO). International classification of diseases 11th revision (ICD-11). 2020. https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/1652981832. [Accessed 25 September 2020].
[70] Fryer G. Somatic dysfunction: an osteopathic conundrum. Int J Osteopath Med 2016;22:52–63. https://doi.org/10.1016/j.ijosm.2016.02.002.
[71] Directive 2013/55/EU of the European Parliament and of the Council. https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:354:0132:0170:en:PDF. [Accessed 22 November 2020].
[72] Moran R. Somatic dysfunction–Conceptually fascinating, but does it help us address health needs? Int J Osteopath Med 2016;22:1–2. https://doi.org/10.1016/j.ijosm.2016.11.001.
[73] Hawk C, Ndetan H, Evans Jr MW. Potential role of complementary and alternative health care providers in chronic disease prevention and health promotion: an analysis of National Health Interview Survey data. Prev Med 2012;54(1):18–22. https://doi.org/10.1016/j.ypmed.2011.07.002.
[74] Noy M, Macedo L, Carlesso L. Biomedical origins of the term'osteopathic lesion'and its impact on people in pain. Int J Osteopath Med 2020;37:40–3. https://doi.org/10.1016/j.ijosm.2020.06.002.
[75] Fleischmann M, Vaughan B. The challenges and opportunities of using patient reported outcome measures (PROMs) in clinical practice. Int J Osteopath Med 2018;28:56–61. https://doi.org/10.1016/j.ijosm.2018.03.003.
[76] Stochkendahl MJ, Larsen OK, Nim CG, Axén I, Haraldsson J, Kvammen OC, Myburgh C. Can chiropractors contribute to work disability prevention through sickness absence management for musculoskeletal disorders? - a comparative qualitative case study in the Scandinavian context. Chiropr Man Ther 2018;26:15. https://doi.org/10.1186/s12998-018-0184-0.
[77] Iben A, Lise H, Charlotte LY. Chiropractic maintenance care - what's new? A systematic review of the literature. Chiropr Man Ther 2019;27:63. https://doi.org/10.1186/s12998-019-0283-6.