

MUSCULOSKELETAL ULTRASOUND STUDY GROUP IN COLLEGIO REUMATOLOGI ITALIANI: WORKUP ACTIVITY

C. VENDITTI^{1,2}, V. BRUNER³

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¹Rheumatology Outpatient Clinic, Distretto Sanitario Campobasso, Azienda Sanitaria Regione Molise, Campobasso, Italy

²Rheumatology Outpatient Clinic, Distretto Sanitario Alto Sannio-Fortore – Azienda Sanitaria Locale Benevento 1, Benevento, Italy

³UOC Infezioni sistemiche e dell'immunodepresso – D. Cotugno Hospital – Azienda Ospedaliera Specialistica dei Colli, Naples, Italy

CORRESPONDING AUTHOR

Vincenzo Bruner, MD; e-mail: vincenzo.bruner@ospedalideicolli.it

ABSTRACT – The Collegio Reumatologi Italiani (C.Re.I.) Ultrasound Study Group aims to spread musculoskeletal ultrasound technique at every level across the Italian rheumatologists. The study group promoted a national survey on the diffusion of ultrasound (US) among members. This survey demonstrates a large diffusion of trained sonographers and ultrasound machines at all the clinical levels. When trained sonographers or ultrasound machines are not available, rheumatologists prefer to refer patients to others experienced rheumatologists. During the last two C.Re.I. National Congresses, the Ultrasound Study Group opened a working table to delineate future skills improvement, ranging from theoretical lessons to the assessment of difficult clinical cases, in order to consolidate ultrasound use during diagnostic and therapeutic processes. The objectives of the Ultrasound Working Table are the starting point for consolidation and diffusion of rheumatological ultrasound in the rheumatological clinical routine procedure. The aim of this report is to divulgate the Study group's initiatives and achieved objectives.

KEYWORDS: Ultrasound study group, Ultrasound National Survey, Italian Musculoskeletal Ultrasound.

INTRODUCTION

The musculoskeletal ultrasound is one of the implementation techniques of rheumatologic clinical examination¹⁻³. Definition of the use of ultrasonography in rheumatology become part of Outcome Measures in Rheumatology (OMERACT) since 2005, when instrumental measurements have been provided concerning different patterns of rheumatic disease⁴. Yet, some authors report the prominence of ultrasound examination in the subclinical articular involvement in many arthritis subtypes⁵⁻⁸. In 2017, the Collegio of Reumatologi Italiani (C.Re.I.) set up a dedicated study group, initially with the purpose to produce clinical protocols and/or studies to implement the ultrasound use in daily clinical practice. Successively, the study group, after college meetings, promoted in 2022 a national survey to indagate the diffusion of ultrasound in rheumatology clinics and how rheumatologists approach this imaging technique, regardless of their skill or ability to use it.



The presentation and discussion of data of this survey took place at XXV C.Re.I National Convention. After this event, the study group worked to select new members and promote a working table to expand the use of ultrasound technique during clinical assessment in first level rheumatological evaluation.

THE ITALIAN ULTRASOUND SURVEY

The C.Re.I. Ultrasound Study Group, formed by a panel of Italian experts, sent to all the Society members a survey on anonymous and voluntary basis. The survey aimed to recognize and study the diffusion of ultrasound among members, the way in which it was integrated into clinical practice and discover the presence of obstacles impairing its growth at a first level of investigation.

The survey consisted of two parts; the first part was the same for every member, with epidemiological and wide-ranging questions (age, region of job, kind of clinic, availability of ultrasound machine). The second part was personalized based on every individual's ultrasound scans performance. The survey consisted of multiple-choice answers. All data were collected anonymously.

The survey was sent to all the approximately 150 active members, with a total of 85 responses. Table 1 shows the epidemiological data of the members.

Table 1. Survey Questions.

Wide-ranging epidemiologic questions (Age, Region of work, Location of work, ultrasound availability)

Personalized questions based on the answer: "do you use ultrasound?"

If YES:

How many years have you been involved with MSK-US?
 Have you attended specific courses?
 How do you use the method in your daily practice?
 Do you use OMERACT/EULAR ultrasound scores?
 How many ultrasound scans do you perform on average each week?
 Do you also use MSK-US to carry out joint/periarticular infiltrations?
 Do you feel the need to get more involved into any aspects of ultrasound in rheumatology?

If NO:

Have you performed joint ultrasounds in the past?
 How do you behave in daily clinical practice if a patient needs to undergo MSK-US?
 Do you have an expert rheumatologist of reference to carry out MSK-US on your patients?
 In your daily clinical practice, do you think that the use of MSK-US during the visit (for disease activity, diagnostic confirmation, differential diagnosis...) could add anything for you and your patients?

Abbreviations: MSK-US: Musculoskeletal Ultrasound; OMERACT/EULAR: Outcome Measures in Rheumatology Clinical Trials/European Alliance of Associations for Rheumatology.

The age distribution and the territorial distribution were fairly homogeneous, although the majority of members, not just survey participants, were resident in the two most populated regions of Italy (namely, Lombardia and Campania), as reported in Table 2. Although the C.Re.I. is a scientific society that mainly welcomes hospital and local rheumatologists, also university rheumatologists and freelancers in private nursing homes affiliated with the NHS took part in the survey, making it more similar to the national working reality of rheumatologists.

Despite the availability of an ultrasound machine in 85% of cases (72/85 responses), only 54% of the members were active users of the ultrasound machine (46/85), with an expertise greater than 5 years in the 76% of cases, acquired in specific courses for the monitoring of inflammatory joint pathologies in the 95% of responses (Figure 1-2). The 73.9% of ultrasound members used ultrasound as an additional examination during the visit, but also in dedicated times and spaces when possible (41%). Furthermore, 80% of the responders used ultrasound as an aid for infiltration therapy. Participants who were not active sonographers (46%) never performed joint ultrasounds in 54% of cases, mainly due to lack of possibilities (61.9%), though they consider it a useful exam for clinical practice in almost all cases (97%). In patients for whom not-US members need to request this examination, they refer the patient to another rheumatologist (69.2%) or a radiologist (30.8%).

Table 2. General Questions.

Age (y.o.)	<35 y: 8 36-50 y: 37 51-65 y: 29 >65 y: 11
Regions (North: Lombardia, Piemonte, Liguria, Veneto, Trentino-Alto Adige; Center: Emilia Romagna, Toscana, Lazio, Abruzzo, Marche, Umbria; South: Campania, Molise, Calabria, Basilicata, Puglia; Island: Sicilia and Sardegna).	North: 22 Center: 26 South: 26 Island: 11
Working place	Rheumatology Unit in Hospital: 20 Outpatient clinic in Hospital General Medicine: 16 Outpatient clinic in local health facility: 15 Rheumatology Unit in University Hospital: 15 Outpatient clinic in private hospital: 11 Other: 8

Abbreviations: y.o.: years old.

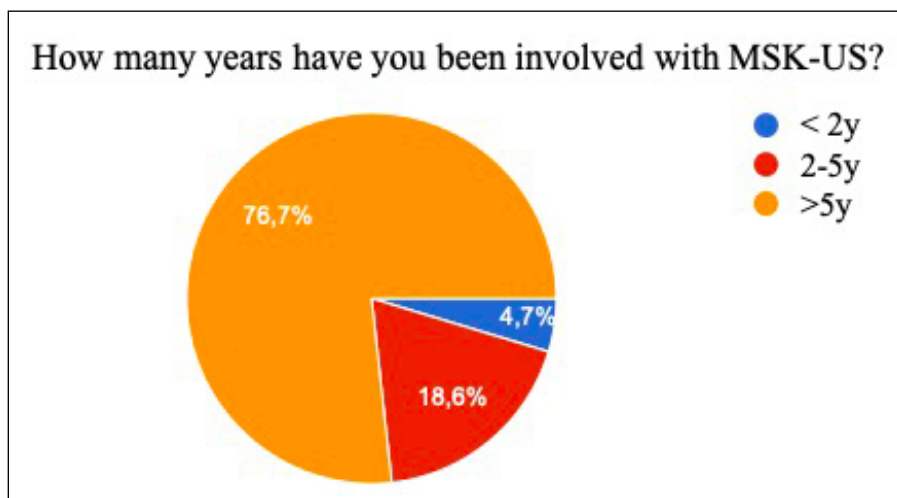


Figure 1. Graphic representation of the participants’ experience in Ultrasound-MSK.

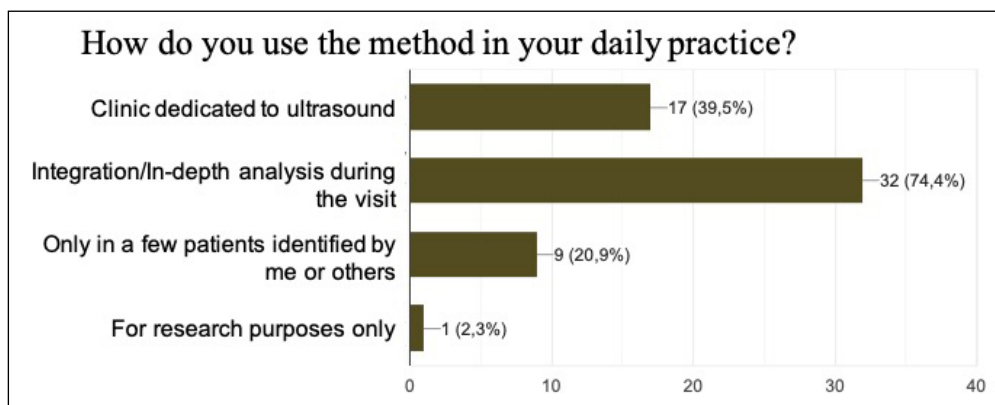


Figure 2. Distribution of the US use in daily practice, whether during the visit or in separate moment/agenda. Note that this is a multiple-choice question.

The responses analysis also highlighted that among the members who did not perform ultrasound scans and who did not have a reference rheumatologist (30.8%), there was an ultrasound machine in the structure where they work in 67% of cases.

DISCUSSION

After the data presentation, the Ultrasound Study Group discussed and analyzed the results of the Survey with all members and participants of Congress.

The National Survey highlighted that the diffusion of ultrasound devices is greater than expected at all the clinical levels (namely, territorial, hospital, university, non-rheumatology departments), regardless of the operators' possibilities or capabilities.

More than 50% of the members declared to be adequately trained, to have gained more than 5 years' experience and to use ultrasound during the medical examination, rather than in dedicated times and locations. Yet almost all the members performing ultrasound scans have expressed interest in further deepening researches in this area. Also, the survey highlighted that >50% of the members not equipped with ultrasound scans for various reasons (e.g., equipment unavailability or lack of training), tend to refer patients to other experienced rheumatologists. This suggests that the members are fully aware that ultrasound in rheumatic patients is inextricably related with the rheumatological branch to provide appropriate responses to clinical matters. For these reasons, the Study Group opened a national working table to pursue the following objectives:

- To gain awareness of the need for rheumatological ultrasound during the medical examination to optimize diagnostic-therapeutic paths as well as to lower direct/indirect costs and waiting lists.
- The creation of a C.Re.I. institutional training school to perform first level rheumatological ultrasound and achieve ultrasound-based diagnostic algorithms for medical problem solving.
- The establishment of a network of members carrying out rheumatological ultrasound scans after an agreement with the NHS, pending the completion of the two previous projects, to offer to members who do not perform ultrasound scans the chance to implement the diagnostic process.

ONGOING PROJECTS

In the ensuing months, the Study Group led to the creation of a national network of clinical members and sonographers who gathered on 23 June 2023 at the XXVI C.Re.I. Congress. This network established a training course oriented towards problem solving and collegial discussion of clinical cases, in which ultrasound should become a crucial step in the diagnostic-therapeutic process.

CONCLUSIONS

The C.Re.I. Rheumatology Ultrasound Study Group has developed over the years a network of contacts throughout the country which, starting from a fact-finding survey, has created a solid and direct path towards future projects to consolidate the role of ultrasound as a technique for implementing rheumatology clinical practice.

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The authors declare that they have no conflict of interest to disclose.

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C. Venditti and V. Bruner had contributed in equal part to the present manuscript.

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