In Italy, rheumatic diseases are the second most frequent cause of morbidity among all affections, after those involving the cardiovascular system, and the first in chronic-degenerative diseases (1). Their prevalence in adult population is 26.7% (2). Rheumatic illnesses differ greatly in their etiology, severity and disease course. However, they all cause significant disability in daily activity and in a socio-economic context, including the work place. The recent social report on Rheumatoid Arthritis presented by the Censis Foundation, the Italian Society of Rheumatology and the National Association for Rheumatic Illnesses showed significant daily disability in domestic activities in around half of the patients with Rheumatoid Arthritis, and a notable change in the working life of the 22.7% of those interviewed, even resulting in giving up work (3).

Many reports have shown the huge impact of rheumatic illnesses (chronic inflammatory rheumatisms, fibromyalgia, chronic back pain, osteoarthritis, connective tissue diseases, etc.) on work disability, and the consequent social costs.

A survey carried out by the health monitoring service (Osservatorio Sanità e Salute, 2008) reported that, in Italy, total social and health care costs related to chronic rheumatic illnesses amount to over 4 billion euro a year (4). According to the rehabilitation program set out by the Italian Ministry of Health in 2011 (5), patients with rheumatic illnesses can be defined as highly complex cases, as they are affected with chronic diseases, which are often associated with impaired systemic functionality, comorbidity and complications. Thus, rheumatologic rehabilitation is necessary and complex.

However, even today, the concept of rheumatologic rehabilitation is little known and even less applied. This is in stark contrast to the rehabilitation practices in other disciplines, such as orthopedics, neurology, cardiology and pneumology, that often treat also rheumatic patients. Although “rheumatisms” have been among the most well known illnesses since ancient times, and Rheumatology has been recognized as a distinct discipline for almost a century (the International League Against Rheumatism was founded in 1927), rheumatologic rehabilitation in various countries, including Italy, has not been identified as a distinct and priority discipline.

Cause and effects of this situation are the following: few recommendations and guidelines are available, that, moreover, differ widely in their approach to the rehabilitation of rheumatic patients; randomized and controlled studies are scarce and it is difficult or even impossible to carry out double blinded studies; many researches lack in methodological rigor, involve only small patient samples, which are not homogeneous, and often do not have long-term results.

Furthermore, even though many studies reporting the efficacy of rehabilitation in rheumatic patients in terms of pain, daily function and quality of life have been published, the design of rehabilitation protocols have been hampered by the fact that the methods used in the studies have not been described and, thus, the results are
difficult to be compared. It should be also added the lack of specific rehabilitation structures for rheumatic patients (almost absent in Italy) and the fact that in Italy rheumatologic rehabilitation is not included in University degree courses. In particular, no classes in rheumatologic rehabilitation are present in the degree courses of Medicine or Physiotherapy, or in the post-graduate specialty schools of Rheumatology and Rehabilitative Medicine. Therefore, rheumatologic rehabilitation is, at the moment, mainly based on the experience and the clinical evidence provided by the specialists directly involved. On the basis of this experience, we can try to define the main characteristics by which rheumatologic rehabilitation differs from the rehabilitation practices in other disciplines.

In some countries, the rheumatologist has, for many years, been assisted by a team of various rehabilitation specialists, each with a specific role: physiotherapist, rehabilitation nurse, occupational therapist, rehabilitation assistant, professional assistant, social worker, psychologist (6). This multi- and inter-disciplinary profile of rheumatologic rehabilitation has led to great clinical efficacy and reduced management costs, as confirmed in many scientific papers (7-9).

Today, in Italy, rheumatic patients are being followed by a growing number of experts with highly specialized skills in a variety of fields, such as otoneurologists, dentists and bioengineers who deal with posturology, chiropractic treatment, osteopathy, acupuncture, podiatry, and many others.

As underlined in the recent update of the ASAS/EULAR recommendations in patients with Ankylosing Spondylitis, the rheumatologist is responsible for the co-ordination of the complex multidisciplinary approach that requires pharmacological treatment and rehabilitation (10). It is, in fact, the rheumatologist who knows both the disease and the psychophysical status of the patient and who should be informed of the whole range of useful rehabilitation options. Thus, the rheumatologist must, above all, provide the rehabilitation team with the diagnosis of the patient, and define the presence and the severity of the extra-articular manifestations of the disease and the possible comorbidities which could influence the rehabilitation process (cardiac and pulmonary diseases, severe osteoporosis, etc.). The rheumatologist should be also the first to propose the rehabilitation project to the patients, providing them with correct information and encouraging their active participation in the therapeutic program. The collaboration of the rheumatologist consists also in prescribing an efficacious pharmacological therapy, that allows the rehabilitation to take place, in controlling patient compliance for the entire duration of treatment and in evaluating, together with the rehabilitation team, the final results and follow-up (11).

It is essential to carry out the rehabilitation as early as possible together with the pharmacological therapy. Unfortunately, very often, the rehabilitation in rheumatology is introduced as the last therapeutic attempt, to be used only when it is not possible to cure the patient with medical therapy, and when surgery is not advised. This approach has little efficacy and does not motivate the patient in following the treatment. For example, there is scarce hope of improvement in patients with advanced stage of Ankylosing Spondylitis with a “bamboo spine” or of Systemic Sclerosis with claw-like fingers.

The early adoption of specific rehabilitation therapy has been promoted in many fields (traumatology, cardiac surgery, pneumology, neurology, etc.), but little is known about the enormous benefits of rehabilitation in rheumatic diseases, particularly when started early and in collaboration with the rheumatologist. These benefits are not only evident in their impact on pain and inflammation of the joints, but also on the evolution of the disease, by preventing articular alterations and the consequent disability (12-14). It would be hoped that rheumatologists could be able to invert the therapeutic pyramid, not only in establishing more ef-
ficacious pharmacological therapy since
the first phases of the illness, but also in
prescribing early and appropriate rehabili-
tation therapy.
The patient has a central role within the
rehabilitation team and should actively
participate in his day-to-day improve-
ment. The rheumatologist is responsible
for educating the patients and for choos-
ing the rehabilitation objectives with
them and their family, by discussing and
deciding together about the best ways to
achieve those objectives. The rheumatolo-
gist should be the referent for the patient
for the whole rehabilitation period and
should guarantee an adequate communi-
cation with all the members of the team
(11, 15).
The 1998 Italian Health Ministry guide-
lines (16) indicated for rehabilitation ac-
tivities the need of a total patient care,
with the drawing of an individual rehabili-
tation program.
A personalized therapeutic program
should be centered on the physical, psy-
chological and social situation of the pa-
tient. It is essential that the rheumatologist
could globally take in account the pa-
tient’s needs, expectations and preferenc-
es, besides environmental and contextual
factors. In order to create an efficacious
personalized rehabilitation program, it is
of fundamental importance that an accu-
rate clinical and instrumental evaluation
of every compromised joint (pain, phlogo-
sis, motility, strength, deformity and dex-
terity) of the patient should be made. The
rheumatologist and the rehabilitation
team should also perform an overall as-
essment (disease activity, psychological
state, functional ability, tiredness and
quality of life) by using anthropometric
measurements, scales and validated ques-
tionnaires.
Thus, different rehabilitation programs
should be designed according to each
rheumatic affection, and also differenti-
ated according to the different phases and
stages of the disease, in agreement with
the proposals of the English (17), French
(18), and Canadian (19) scientific societ-
ies regarding Rheumatoid Arthritis, as we
already underlined for the physical exer-
cise (20).
Furthermore, methods known as effica-
cious in rheumatology should be com-
bined and could be of help to achieve spe-
cific objectives in particular sites and in
different phases of the illness, as demon-
strated by our group in Systemic Sclerosis
(21-23), always maintaining the priority
of personalized treatment program and of
global approach (24). In fact, even when
the primary aim of the rehabilitation pro-
gram is to reduce pain and to prevent dam-
age and articular deformity in the most
compromised sites, as in chronic arthritis,
however, is always necessary to evaluate
and to treat the entire musculoskeletal sys-
tem to prevent secondary damages. These
are due to changes in posture and gesture
which have developed to compensate the
initial disability and which may, in turn,
be more severe than the initial damage.
Furthermore, rheumatic illnesses involve
many joints and it is, therefore, necessary
to avoid the evolution of the impairment
in other different sites. Unfortunately, the
consequences of the lack of a global reha-
bilitation may arise when a rheumatic pa-
tient is treated in sport or post-trauma spe-
cialized rehabilitation centers, where only
a segmental rehabilitation is performed.
According to the bio-psycho-social model
(25), the global approach to rehabilitation
of the rheumatic patient should not only
cover the entire musculoskeletal system
but also the overall general health of a
chronically ill patient. In fact, the multi-
dimensional concept of Health includes
not only the simple absence of illness,
but rather “a state of complete physical,
mental, and social well-being” (WHO,
1947). In fact, rheumatic diseases present
progressive and disabling chronic pain,
are often systemic and sometimes life
threatening; they can lead not only to se-
rious musculoskeletal impairment but to
equally important psychological and so-
cial problems, which may have a strong
impact on patient quality of life and which
aggravate pain and disability.
For what concerns the global approach,
professional experts with psycho-social
skills should be included in the rehabilitation team and each member of the team should be able to establish a meaningful and communicative interchange with the patients. Moreover, in the global management of rheumatic patients, mind-body techniques are increasingly demonstrated as efficacious (26).

These techniques treat the mind and the body as two integrated and inseparable aspects of the organism. Acting on the patient’s mental and psychological state, they develop their self-perception and body awareness, helping them to recognize any changes in posture and function. These techniques help the patients in developing strategies to re-educate body, to improve movement and body control, and to reduce pain.

One of the most interesting features of this approach is that patients who can accomplish it can actually take responsibility for their own health through an active commitment to gaining psycho-physical well-being. It is the patient himself who, under the guidance of the physiotherapist, improves his own health. Mind Body strategies seem to be particularly effective in patients with Fibromyalgia (29-32). In this condition, the multidisciplinary rehabilitative approach is recommended with a high level of evidence by American Pain Society and Association of Scientific Medical Societies in Germany, in contrast to the EULAR, which advises almost exclusively pharmacological therapy (33).

From the data discussed till now, it is easy to understand the difficulty of applying in rheumatic patients predetermined rehabilitation protocols, difficulty that heavily impacts on the research in this field. Another important characteristic of rheumatologic rehabilitation, which differentiates it from other fields of medicine (orthopedics, traumatology, sport medicine), is the continuity of treatment, to be carried out for the entire duration of the illness. Given the chronic nature of the rheumatic diseases, scientific studies show a rapid reduction in efficacy once treatment is stopped, no matter what method of rehabilitation is applied. It is, therefore, advisable to repeat the cycles of rehabilitation therapy, alternating group courses and individual sessions, under the supervision of a physiotherapist. These should be supported by home exercises and education programs administered to the patients.

Finally, it is important to underline that any rehabilitation treatment aimed at the rheumatic patient must always be applied in the absence of pain. Causing pain in this type of diseases is the equivalent of exacerbating the inflammation of the joints, with the risk of leading to serious and irreversible lesions and damages. An expert physiotherapist should adjust his intervention precisely according to a constant evaluation of the pain the patient is experiencing and should never pass pain threshold. For this reason, in rheumatologic rehabilitation it is not advisable to use technical equipment but rather to rely on the manual skills of a physiotherapist with an expertise in treating rheumatic patients (11).

In conclusion, rehabilitation treatment in the rheumatic patient does not consist in applying methods used in other disciplines. It is rather a specific and personalized multidisciplinary approach which is aimed at and continuously adjusted to achieve the physical, social and psychological wellbeing of the patient, coordinated by the rheumatologist at every stage and phase of the illness. Given the efficacy and the complexity of rheumatologic rehabilitation, it is essential to raise awareness and knowledge in this field throughout Italy.

It is also important to promote scientific studies, formulation of guidelines and to provide highly specialized medical and paramedical staffs that could properly apply rehabilitation to all rheumatic patients needing this intervention. The rheumatologist has a central role in taking responsibility for the overall management of the rheumatic patient, even during the complex rehabilitation process. For this reason it may be suggested to create a new field within Rheumatology to train rheumatologists skilled in rheumatologic rehabilitation: the Rehabilitative Rheumatology.
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