# Problems of recruitment of patients followed for multiple sclerosis: Experience of the rehabilitation and functional rehabilitation department of the Mohammed V Military Hospital in Rabat.

**Maryeme AMMARI, Hartwig MOUNGUENGUI, Vianel TENDART, Saloua KHALFAOUI.**
**Rehabilitation and functional rehabilitation service, Military hospital Mohamed V, Rabat.**
**E-mail : maryemeammari@gmail.com**

## Abstract :

*Multiple sclerosis is a chronic inflammatory demyelinating and autoimmune disease of the central nervous system. It represents the first cause of disability in young subjects.*

*Its management is multidisciplinary, involving several specialties (neurology, functional rehabilitation and its contributors (physiotherapy, speech therapy, occupational therapy, psychiatry...).*

*Several rehabilitation methods have proven their effectiveness on the different aspects of the disease and aim to improve the quality of life of patients primarily.*

*We have noticed in our hospital a reduced number of patients referred for MS compared to the number received in the neurology department. Hence the aim of our study which was interested in determining the cause of this lack of recruitment.*

*The main cause is the lack of referral to a specialized structure in functional rehabilitation medicine.*

*All this leads us to conclude that specialists should not hesitate to send patients with multiple sclerosis to functional rehabilitation whenever the opportunity arises.*

Key words: Multiple sclerosis, physical medicine and rehabilitation, patient recruitment.

## Introduction :

Multiple sclerosis is a chronic and autoimmune inflammatory demyelinating disease of the central nervous system which represents the first cause of disability in young subjects after road accidents. It affects young subjects between 20 and 40 years old with a clear female predominance (3 women for 1 man) [01].

## Study objectives:

Within the rehabilitation and functional rehabilitation service of the Mohamed V Military Hospital in Rabat, we have concluded, thanks to the archives consulted for the years from 2015 to 2022, that the total number of patients followed for multiple sclerosis and who benefited number of rehabilitation sessions is 38 patients. Indeed, our center has received only 38 patients for a period as long as 07 years. This figure is insufficient compared at least with the number of patients received in neurology which is estimated on average at 8 patients / month or 96 patients / year and therefore 672 patients / 07 years on average.

**This leads us to ask a question that will determine the objective of this study: Know, why patients followed for MS do not benefit from comprehensive care in physical medicine and rehabilitation (in our training)?**

## Materiels and methods :

We report in this study a series of 22 cases collected within the neurology department of the HMIMV over a period of 3 months from September 01 to December 01, 2022.

**Inclusion criteria:**

- Any patient followed for multiple sclerosis aged between 20 and 60 years.
- Any patient who has never consulted in physical medicine.
- Any patient referred to MPR but who has not completed the prescribed number of sessions (abandonment of sessions).

**Exclusion criteria:**

- Any patient followed for MS in the HMIMV neurology department.
- Any patient followed for a pathology other than MS requiring rehabilitation sessions.
- Patient diagnosed for less than 03 months.

**Collection methods:**

An operating sheet filled in with patient data.

**Study results:**

**1-Age :**

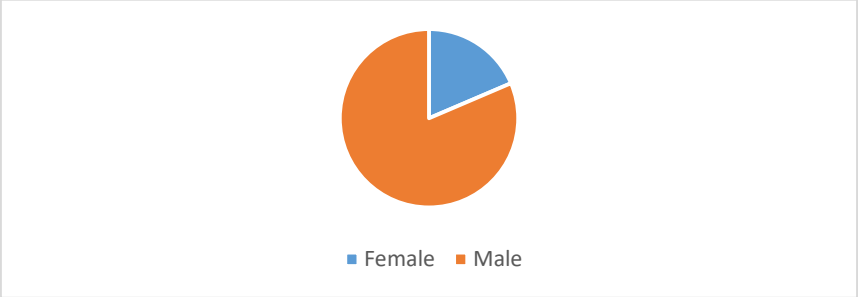
The average age of our patients was 43 years old (with age limits between 27 and 59 years old).

**2-Sex :**

Our study included 22 patients including:

Women: 16 patients out of 22 (73%).

Men: 6 patients out of 22 (27%).




Graph 1: showing the distribution of our patients by gender.

**3-Physical activity :**

2 patients among 22 practiced a sports activity (Taekwondo, Walking).

**4-City of habitat :**

- 20 patients live in the Rabat-Salé-Kénitra region.
- 2 patients living in small towns inaccessible to rehabilitation centers.

**5- Medical cover :**

All patients have mutual insurance:

- 10 patients have general mutual insurance.

• 12 patients are mutualists of the Royal Armed Forces

**6-Form of Multiple Sclerosis :**

• 20 patients have a relapsing-remitting form

• 2 patients have a secondary progressive form.

**7-Number of outbreaks per year :**

The number of relapses varies between 1 relapse to 3 relapses per year.

**8-Years of diagnostics :**

• 1 patient was diagnosed in 2002.

• 2 patients in 2009.

• 4 patients in 2011.

• 2 patients in 2012.

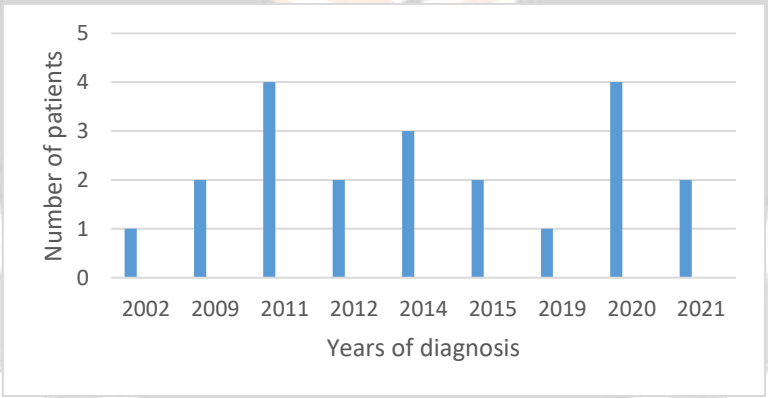
• 3 patients in 2014.

• 2 patients in 2015.

• 1 patient in 2019.

• 4 patients in 2020.

• 2 patients in 2021.




Graph 2: showing the distribution of patients by year of diagnosis.

**9-Signs during flare-ups:**

The signs during relapses are variable and consistent with those found in the literature.

**10-Residual signs apart from relapses:**

Proprioception disorder, balance disorder, levator deficit, urinary incontinence.

**11-Number of sessions done in total:**

2 patients benefited from 1 to 3 sessions.

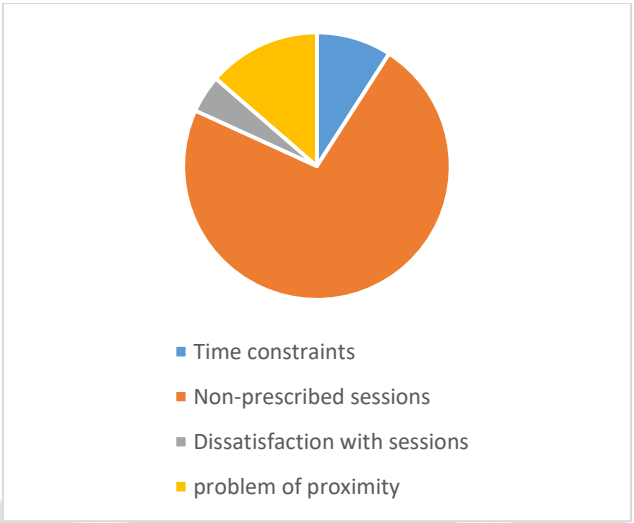
**12-Causes of abandonment or non-benefit of sessions.**

Time constraint: 2 patients (9%).

- Non-prescribed sessions: 16 patients (73%).

- Patient dissatisfaction with the sessions: 1 patient (4.5%).

- Problem of proximity to the rehabilitation center: 3 patients (13.5%)




Graph 3: showing the distribution of patients according to the reasons for abandoning or not benefiting from the sessions.

## Discussion :

Multiple sclerosis is an autoimmune disease that affects the central nervous system. It causes lesions responsible for sensory, motor, cognitive and even sphincter disorders, hence the importance of a well-conducted examination highlighting the various deficiencies that will be targeted in functional rehabilitation. Several techniques have been tested and have shown their effectiveness.

Cryotherapy, whose mechanism is still poorly understood, is used effectively against spasticity by immersion in cold balneotherapy, cold showers or wearing refrigerated sleeves or jackets on spastic limbs. It is also beneficial against fatigue and cerebellar tremor. However, its limit is its duration of action which does not exceed 30min to 3h depending on the method used.

TENS electrical nerve stimulation, applied in focal spasticity, with varying durations between 1h and 8h per day, objectified a reduction in spasm with improvement in VAS in the 8h/day group.

Brar et al. measured spasticity in 30 ambulatory patients following a program combining stretching, oral baclofen and a placebo for 10 weeks in a controlled, double-blind, placebo-controlled trial. The program included daily stretching of 4 muscle groups after a supervised session. Aschworth score, isokinetic evaluation and walking speed were assessed. The Baclofen alone and Baclofen plus stretching groups showed significantly greater improvements than the placebo group, with a potentiating effect of baclofen plus stretching.

Training on an electrically assisted cycle ergometer (Motomed type) was evaluated at the rate of 3 sessions per week for 2 weeks in 12 patients and concluded with a significant reduction in spasticity evaluated by the modified Ashworth scale.
The treadmill walking system with weight relief was evaluated in one study. Spasticity, muscle strength, endurance, walking speed and quality of life improved significantly. No fatigue or side effects were noted. Physical exercise was previously considered to be harmful by inducing fatigue, but no proof has been demonstrated. The temperature varied by 0.1°C on average, according to a study conducted and no neurological aggravation or fatigue was presented.

De Sousa and Worthington concluded in 40 patients an improvement in daily activities, fatigue and balance, from a program combining physiotherapy and physical exercises for 18 months, carried out at home. However, the effectiveness was stabilized six months after stopping the program, hence the need for commitment and continuity [2].

Guttierez et al showed an improvement in muscle strength in the quadriceps and triceps surae and thus on walking, in an 8-week strength training program against resistance of the lower limbs [3].

A study of the effects of perineal rehabilitation combining manual muscle strengthening and electrostimulation in 10 patients with MS. All of the patients showed an improvement in the bladder and sphincter disorders [4].

Our 38 patients benefited from a care program adapted to their deficiencies involving both a physiotherapist and/or speech therapist and/or psychomotor therapist and/or occupational therapist and/or psychological support or even a psychiatrist.

The effects of rehabilitation are therefore positive on mobility, functional abilities and therefore on the quality of life of patients, but in the short term. Indeed, follow-up studies show that the benefit obtained decreases between 6 and 10 months after stopping rehabilitation. Therefore, it would be necessary to adhere to maintenance sessions to maintain its effects. We understand that medical treatment alone is not always sufficient, hence the need to combine it with rehabilitation sessions to fight against the various deficiencies. Unfortunately, we cannot compare with our data given the small number of patients we receive in our center. To do this we propose to:

-Coordinate with the neurologist to link the consultation in MPR directly following that of neurology.

-To sensitize and remind the neurologist of the incessant and essential interest of the need for regular management in PMR.

-Train and assign more paramedical staff (physiotherapist, speech therapist, occupational therapist) with a view to proximity for the benefit of patients living far away.

-Open specialized neurorehabilitation centers for neurological patients including MS.

- Raising public awareness through the media through publishable documents, audiovisual reports and educational booklets

-Encourage the creation of associations in this direction

-Conduct a study with neurologists for the follow-up of this type of patient.

All this for a better approach of patients followed for multiple sclerosis in order to have a multidisciplinary and global care offering an optimal quality of life.

## Conclusion :

The management of Multiple Sclerosis is multidisciplinary involving several specialties (neurology, functional rehabilitation and its stakeholders (physiotherapy, speech therapy, occupational therapy, psychiatry, etc.). Specialists should not hesitate to send patients with multiple sclerosis to functional rehabilitation whenever the opportunity arises. In fact, rehabilitation in multiple sclerosis has shown a significant improvement in the different aspects of the quality of life of patients. A program, with well-established objectives, must be followed with maintenance sessions to prolong the gain and the effect of rehabilitation on the individual.

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