Early intervention for rheumatic and musculoskeletal diseases to reduce work disability– the Spanish experience

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Conflict of interests

- Abbvie (Spain): consulting and coordination fees paid to the HCSC Rheumatology Department regarding the implementation of Early Intervention Clinics in Spain (-2017).
A (long) journey from data to results

▪ The reservoir of knowledge
▪ Research
▪ Dissemination
▪ Applications
Rheumatic and Musculoskeletal Diseases (RMDs)

- More than 200 diseases
  - Arthropathies
  - Systemic connective tissue disorders
  - Dorsopathies
  - Soft tissue disorders
  - Osteopathies, chondropathies
  - Other disorders

- Burden of disease
  - High incidence and prevalence
  - Chronic course
  - Low impact in mortality
  - High impact in quality of life: pain and disability:
    - In people of working age (work disability).
  - High demand for care.
  - Tremendous social and economic impact
The global burden of disease: years lived with disability (YLDs) (2019)

Data source: http://www.healthdata.org/gbd/2019

Musculoskeletal disorders
Year: 1990
Rank: 1
Change: 2.57%
Percent: 20.25% of total YLDs (17.71% – 23.14%)

Musculoskeletal disorders
Year: 2019
Rank: 1
Change: 2.57%
Percent: 20.77% of total YLDs (18.12% – 23.97%)

20.25% YLDs
20.77% YLDs
The complexity of Work disability

Occupational Process
- Economic Activity
- Employers, employees
- Companies
- Unions
- Occupational Health

Administrative Process: Social Security system
- Compensation
- Laws
- Agreements
- Control
- Management

Health System Process
- Individual factors
- Collective
- Public Health
- Health Care System
  - Primary Care
  - Specialized Care
  - Inspection

What if…?

TWD: Temporary work disability
PWD: Permanent work disability

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A Health System Program To Reduce Work Disability Related to Musculoskeletal Disorders

Lydia Abukala, MD; Margarita Blanco, MD, PhD; Javier Bachiller, MD; Gloria Candelas, MD, PhD; Paz Collado, MD, PhD; Cristina Lajos, MD, PhD; Marcelino Revenga, MD; Patricia Ricci, MD; Pablo Lázaro, MD, PhD; María Dolores Aguilar, MD, PhD; Emilio Vargas, MD, PhD; Benjamin Fernández-Gutierrez, MD, PhD; César Hernández-García, MD, PhD; Loreto Carmona, MD, PhD; and Juan A. Jover, MD, PhD

Background: Musculoskeletal disorders (MSDs) are a frequent cause of work disability, accounting for productivity losses in industrialized societies equivalent to 1.3% of the U.S. gross national product.

Objective: To evaluate whether a population-based clinical program offered to patients with recent-onset work disability caused by MSDs is cost-effective.

Design: Randomized, controlled intervention study. The inclusion and follow-up periods each lasted 12 months.

Setting: Three health districts in Madrid, Spain.


Intervention: The control group received standard primary care management, with referral to specialized care if needed. The intervention group received a specific program, administered by rheumatologists, in which care was delivered during regular visits and included 3 main elements: education, protocol-based clinical management, and administrative duties.

Measurements: Efficacy variables were 1) days of temporary work disability and 2) number of patients with permanent work disability. All analyses were done on an intention-to-treat basis.

Results: 13,077 patients were included in the study. 7805 in the control group and 5272 in the intervention group, generating 16,297 episodes of MSD-related temporary work disability. These episodes were shorter in the intervention group than in the control group (mean, 26 days compared with 41 days; P < 0.001), and the groups had similar numbers of episodes per patient. Fewer patients received long-term disability compensation in the intervention group (n = 38 [0.7%]) than in the control group (n = 99 [1.3%]) (P < 0.005). Direct and indirect costs were lower in the intervention group than in the control group. To save 1 day of temporary work disability, $6.00 had to be invested in the program. Each dollar invested generated a benefit of $11.00. The program's net benefit was in excess of $5 million.

Limitations: The study was unblinded.

Conclusions: Implementation of the program, offered to the general population, improves short- and long-term work disability outcomes and is cost-effective.
A Clinical Trial in TWD-RMDs ("IT-ME")

Randomization

TWD initiation due to RMDs. (13,000 non selected and non-occupational episodes)

Inclusion: 12 months

Follow-up: 12 months

Control

Results

Early Intervention Program

Results

Duration of TWD
Evolution to PWD
Patient’s satisfaction
Economical Analysis

- Three health districts in Madrid
- Randomized study
- Voluntary program
- Patients maintained their group
- Intention to treat analysis

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Clinical IT-ME early intervention program

- Early referral
- Protocolized clinical management
- Made from specific syndromic diseases (management, duration and location)
- Three growing levels of complexity. Depending on:
  - Clinical criteria of the rheumatologist
  - Timing of diagnostic tests and more complex management in a stepwise manner

- Based on:
  - Early diagnostic
  - **Time dedicated to the patient** (45' new). Follow him closely as many times as necessary
  - Expert clinical management; pharmacological management
  - **Patient education**
    - Early mobilization; ergonomic notions
    - Stretching exercises and rehabilitation
    - Optimal levels of physical activity
    - **Self management**

- Administrative tasks
Research results

- 39% reduction of TWD duration (days)
- 50% reduction of PWD (cases)
- Increased patient satisfaction
- Positive Economic evaluation
  - Decreased direct and indirect costs
  - Benefit/cost at two years: 11 euros

Carpal tunnel syndrome (n=75)

- Mean TWD duration (days): CG 100.4; IG 27.8 (p<0.001)
- Relative efficacy: 72.2%
- HR [95% CI]: 2.09 [1.17-3.75]

Low back pain (n=5,441)

- Mean TWD duration (days): CG 34.5; IG 21.3 (p<0.001)
- Relative efficacy: 38%
- HR [95% CI]: 1.36 [1.28-1.44]

Internal knee disorder (n=142)

- Mean TWD duration (days): CG 64; IG 56.9 (p=0.05)
- Relative efficacy: 11%
- HR [95% CI]: 1.33 [0.84-2.08]

ARD (n=187)

- Mean TWD duration (days): CG 89.5; IG 54.1 (p<0.001)
- Relative efficacy: 40%. RA: 55.6%; SPA: 30.8%
- HR [95% CI]: 1.52 [1.1-2.12]
Research results:

Extension of the program to 6 Areas of the CM

<table>
<thead>
<tr>
<th>Year</th>
<th>TWD processes attended</th>
<th>Efficacy (%)</th>
<th>TWD days saved</th>
<th>Savings in compensation payments (€)</th>
<th>Savings in assistance (€)</th>
<th>Total savings (€)</th>
<th>Intervention costs (€)</th>
<th>Cost/effectiveness</th>
<th>Benefit/cost</th>
<th>Net profit (€)</th>
</tr>
</thead>
</table>


2. Lydia Abasolo, MD, Loreto Carmona, MD, PhD, César Hernández-García, MD, PhD, Cristina Lajas, MD, PhD, Estibaliz Loza, MD, Margarita Blanco, MD, PhD, Gloria Candelas, MD, PhD, Benjamin Fernández-Gutiérrez, MD, PhD, Juan A Jover, MD, PhD. Musculoskeletal Work Disability For Clinicians: Time Course And Effectiveness Of A Specialized Intervention Program By Diagnosis. Arthritis Rheum. 2007 Mar;55(7):335–42.


4. Abasolo, Lydia; Carmona, Loreto; Lajas, Cristina; Candelas, Gloria; Blanco, Margarita; Loza, Estibaliz; Hernández-García, Cesar; Jover, Juan. Prognostic factors in short term disability due to musculoskeletal disorders. Arthritis Rheum [Arthritis Care & Research]. 2008 Mar;27(94):489-496


14. Luis Rodríguez-Rodríguez, Lydia Abasolo, Leticia Leon, JA. Jover (may 2020). Early intervention for musculoskeletal disorders among the working population Authors. Luis Rodríguez-Rodríguez, Lydia Abasolo, Leticia Leon, J. Jover (may 2020). Available at: https://oshealt.eu/wiki/Early_intervention_for_musculoskeletal_disorders_among_the_working_population.
Dissemination and partnerships ➔ Making things happen in Spain

Policy Makers and Administrators
- Spanish Senate
- Spanish Ministry of Health
- Autonomous Communities

Rheumatology strategic plans
- Proposal for a MSD National Strategy
- National RMDs Strategy (2013): Chapter dedicated to Early Intervention in IT-ME
- Regional Plans in Rheumatic Diseases: Madrid Community (2012).

Social Security and Labour
- Social Security
- Employers, Unions, Occ. Health

Funding programs: TWD-RMD Early Intervention Programs:
- Fit for work (FfW) in Spain, private funding: (2012-2017)
  - 23 Early Intervention Clinics in 8 Autonomous Intervention Communities (AACC)
  - Efficacy~30-40%
- Early Intervention Programs financed by the National Institute of Social Security (INSS): (Agreements INSS/AACC: 2013-)
  - IT-ME Pilot Program of the Community of Madrid (CM) (2019-).

Support programs

Health Professional Body
- Scientific societies; primary/ specialized care, inspection services

Consider WD as a clinical problem.
Necessary for the program’s implementation
IT-ME Pilot Program of CM

- **Coordinated action:** Primary health care, specialized and inspection services
- Financed by INSS through INSS/CM agreement
- **Inclusion:** TWD-RMDs due to common disease
  - Sick leave episodes secondary to trauma, surgery, or work accidents were excluded.
  - Less than a week of evolution
- **Three health districts:** Hospital Clínico San Carlos; Hospital Ramón y Cajal; Hospital Infanta Sofía
- **Voluntary program**
- **Early intervention program:**
  - Expert clinical management
  - Patient education and self-management
  - Return to work support
  - Administrative tasks: Not allowed by health care professionals of the program

### Data form year 2017-2018

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total reference population</td>
<td>1,156,615</td>
</tr>
<tr>
<td>Total TWD-MRD processes</td>
<td>18,559</td>
</tr>
<tr>
<td>TWD-MRD processes &gt;5 days of duration</td>
<td>13,919</td>
</tr>
</tbody>
</table>

**IT-ME Program**

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of rheumatologists in the program</td>
<td>7</td>
</tr>
<tr>
<td>Number of administrative staff in the program</td>
<td>2</td>
</tr>
<tr>
<td>Target of new processes to attend (12 months)</td>
<td>5,600</td>
</tr>
</tbody>
</table>

**Quality indicators**

<table>
<thead>
<tr>
<th>Event</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>New processes attended</td>
<td>5,250</td>
</tr>
<tr>
<td>Early access &lt; 7 days from sick</td>
<td>&gt;96%</td>
</tr>
</tbody>
</table>

- April 2019 - March 2020
- January 2021 - December 2021
IT-ME Pilot Program of CM: preliminary results

Inclusion: 9 months (1th Apr - 31th Dec 2019)

Follow-up: min 5,5 months (15th Jul 2020)

3 Health areas of Madrid

Identified by IT-WEB

Contacted by phone

Attended in TWD-RMD program

TWD-RMD episodes.

18.559

Identified by IT-WEB

TWD-RMD episodes.

12.723 (70%)

Contacted by phone

TWD-RMD episodes.

5.738

Attended in TWD-RMD program

TWD-RMD episodes.

3.786 (20%)

Excluded and not contacted:

• Returned to work (52%)
• Full agenda (20%)
• Wrong phone number/don't answer the phone (18%)
• Bad classified: pregnancy and surgeries (10%)

Not appointment in the program:

• Pregnancy (30%). Surgery (17%)
• Declined by the patient:
  • Being attended by other specialist (29%)
  • Not interested (10%)
  • Almost recovered (14%)

Telephone contact: Lag time <72 hours after the sick leave form

*Grupo de trabajo de programa piloto IT-ME. Comunidad de Madrid. Servicio de Reumatología. Hospital Clínico San Carlos, Hospital Ramón y Cajal, Hospital Infanta Sofía y Gerente Adjunta de Ordenación Asistencial e Innovación Organizativa. Consejería de Sanidad. Comunidad de Madrid. SERMAS

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IT-ME Pilot Program of CM: comparators and preliminary results

- **Parallel:** Same health areas, same period
  (Inclusion. 1th Apr -31th Dec 2019. Follow-up: end 15th Jul 2020)
  - **Intervention group (IG):** All patients with TWD-RMD contacted and attended at the program
  - **Control group:** TWD-RMD patients not seen by the program for different reasons:
    - **CG-1:** patients not contacted due to “full agenda” or “wrong phone number/don't answer the phone”
    - **GC-2:** patients contacted and refused to attend the program because they were "under the care of other specialist."

<table>
<thead>
<tr>
<th></th>
<th>Number of TWD-RMD episodes</th>
<th>Mean duration (days)</th>
<th>P&lt;</th>
<th>Relative efficacy (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CG</td>
<td>IG</td>
<td>CG</td>
<td>IG</td>
</tr>
<tr>
<td>Parallel 1</td>
<td>2,631</td>
<td>3,786</td>
<td>57.94</td>
<td>52.29</td>
</tr>
<tr>
<td>Parallel 2</td>
<td>616</td>
<td>3,786</td>
<td>79.57</td>
<td>52.29</td>
</tr>
</tbody>
</table>

*Efficacy of the program: difference between groups in duration of TWD; Relative efficacy of the program: Percent of days saved by the program*
Ideas and future directions

- **Keep the current goal:** Commitment of 5,600 new TWD-RMDs processes handled per year.
- **Administrative tasks (sick leave forms):** it should be carried out by health care professionals of the program
- **Keep agreements with INSS**
- **Expand the program:**
  - More number of health care professionals implicated: increase the number of TWD-RMDs processes
    - 10 health care professionals to cover 8,000 TWD-RMDs processes:
      - Rheumatologists, primary care physicians, and/or orthopedics with the skills acquired to treat these processes.
    - Add to the program other specialties for more complex patients:
      - Psychologists for prolonged sick leaves due to psycho-social problems (~ 1,100 patients).
      - Orthopedic surgeons for those processes that require surgery.
  - More health areas
  - More AACCs
  - Cover other TWD specialties: psychiatry ...
- **Integrate the program among the different implicated health care actors:**
  - Keep going trimestral meetings; expand and integrate the IT-web digital platform
  - Have a single physical space "Center for work disability"
- **Involve the labor domain:** Fast track access through companies, employee self-assessment, primary and secondary prevention programs
### Why it works?

<table>
<thead>
<tr>
<th>Coordinated action of Health Care System</th>
<th>• Primary and specialized care, and inspections services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-focused</td>
<td>• Time with the patient</td>
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<tr>
<td></td>
<td>• Patient education, self-management</td>
</tr>
<tr>
<td>Expert clinical management</td>
<td>• Confirmed diagnosis</td>
</tr>
<tr>
<td></td>
<td>• Close follow-up</td>
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<td></td>
<td>• Return to work support</td>
</tr>
<tr>
<td>Simple pathway &amp; Rapid access</td>
<td>• GPs referral to rheumatologists within 5 days of sickness absence</td>
</tr>
</tbody>
</table>
Thank you for your attention

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