Global Rheumatology Summit 2008

Prevalence of Rheumatic Diseases in Latin American Populations
Community Based Studies Using the COPCORD Model Approach

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PANLAR President 2004-2008

Yokohama, JAPAN. September 27, 2008
The COPCCORD Approach

Stage I

Phase 1: Screening (Questionnaire: cross-cultural adapted)*

Phase 2: Pre-evaluation

- Pain/Tenderness in bones/joints/muscles in the last 7 days
- Physical disability
- Absence of any trauma at that locations

Phase 3: Evaluation by a Rheumatologist (blinded to the information provided by the questionnaires)

Design: Cross Sectional Home Survey

Data Available in Latin America

COPCORD APPROACH

September 2008
Data Available in Latin America

- **Mexico**: Cardiel MH et al. Community based study to estimate prevalence, burden of illness and help seeking behavior in rheumatic disease in Mexico City. A COOPCORD study. (Pedro Martir)
  *Clin Exp Rheumatol* 2002;20:617-24

- **Brazil**: Rodrígues Senna EP, Bosi Ferraz M et al. Prevalence of Rheumatic Diseases in Brazil. A Study using the COPCOORD approach. (Montes Claros, Minas Gerais)
  *J Rheumatology* 2004;31:594-7

- **Cuba**: Reyes Llerena GA. Prevalence of Rheumatic Diseases in Cuba. A community based study using the COPCOORD questionnaire. (Lawton)
  *Personal communication. June 01, 2005*
Data Available in Latin America


COPCORD Model

Examples of the Communities and Interviewers

Latin America

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**Lawton**: a rural community in Cuba

**Population**: 22,901 in 1920 houses

**Familial Doctors**: 48

**Rheumatologists**: 3 (Phase 3)

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**Tambo Viejo**: a suburban community in Lima, Peru

**Population**: 11,000

**Rheumatologists and Residents**: 8
COPCORD Model

Examples of the Communities and Interviewers

Latin America

San Juan Sacatepéquez: a rural community in Guatemala
Population > 15 years old: 125,539
Rheumatologists: 5

Zona 5 Guatemala: an urban community in Guatemala
Population > 15 years old: 45,758
Rheumatologists: 5
## Community Based Studies Using the COPCORD Model Approach in Latin America

### Method: General Information

<table>
<thead>
<tr>
<th>Community</th>
<th>Sample Size/ Population (%)</th>
<th>Age (years)</th>
<th>Pain Intensity (VAS 0-10)</th>
<th>Rheumatologists (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico 2002 Suburban</td>
<td>2,500/30,000 (8.3)</td>
<td>≥ 18</td>
<td>≥ 4</td>
<td>1</td>
</tr>
<tr>
<td>Cuba 2005 Rural</td>
<td>3,155/22,901 (13.8)</td>
<td>≥ 18</td>
<td>≥ 1</td>
<td>3</td>
</tr>
<tr>
<td>Brazil 2004 Suburban</td>
<td>3,038/?</td>
<td>≥ 16</td>
<td>≥ 1</td>
<td>1</td>
</tr>
<tr>
<td>Peru 2007 Suburban</td>
<td>1,965/11,000 (17.9)</td>
<td>N. D.</td>
<td>≥ 1</td>
<td>8</td>
</tr>
<tr>
<td>Guatemala 2007 Urban and Rural</td>
<td>7,811/171,297 (4.6)</td>
<td>≥ 15</td>
<td>Ordinal scale</td>
<td>5</td>
</tr>
</tbody>
</table>

In Mexico, Cuba and Peru the sample was at random, stratified by age and sex. In Brazil and Guatemala the sample unit was the domicile.
Results
### Demographic and Socio-economic Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Age Mn (± SD)</th>
<th>Female / Male</th>
<th>Working Status (%)</th>
<th>Formal Education &gt; 6 years (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>2002</td>
<td>35 ± 14</td>
<td>53 / 47 *</td>
<td>96</td>
<td>87</td>
</tr>
<tr>
<td>Cuba</td>
<td>2005</td>
<td>N. D.</td>
<td>54 / 46 *</td>
<td>N. D.</td>
<td>N. D.</td>
</tr>
<tr>
<td>Brazil</td>
<td>2004</td>
<td>36 ± 10</td>
<td>63 / 37</td>
<td>66</td>
<td>N. D.</td>
</tr>
<tr>
<td>Peru</td>
<td>2007</td>
<td>40 ± 16</td>
<td>51 / 49 *</td>
<td>63.8</td>
<td>N. D.</td>
</tr>
<tr>
<td>Guatemala</td>
<td>2007</td>
<td>37 ± 13</td>
<td>62 / 38</td>
<td>N. D.</td>
<td>N. D. **</td>
</tr>
</tbody>
</table>

- Stratified by age and sex
- ** 90% Illiterate in Guatemala San Juan de Sacatepéquez

N. D. = Not Data
Prevalence of Musculoskeletal Complaints
Latin American Communities

- Cuba (n=3,155): 43.9%
- Brazil (n=3,038): 46.5%
- Guatemala (n=7,811): 12.5%
- Mexico (n=2,500): 24.9%
- Peru (1,965): 30.9%
Prevalence of Disability in Latin American Communities

- Mexico: 8.7%
- Cuba: 6.3%
- Brazil: 56.6%
- Peru: 55.6%

Self reported Physical Activities of Daily Living
Prevalence of Disability for Musculoskeletal Latin American Communities

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Level of Disability by HAQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>2002</td>
<td>N.D.</td>
</tr>
<tr>
<td>Cuba</td>
<td>2005</td>
<td>0.59</td>
</tr>
<tr>
<td>Brazil</td>
<td>2004</td>
<td>N.D</td>
</tr>
<tr>
<td>Peru</td>
<td>2007</td>
<td>1.23</td>
</tr>
<tr>
<td>Guatemala</td>
<td>2007</td>
<td>N.D</td>
</tr>
</tbody>
</table>

N. D. = Not Data
# Prevalence of Rheumatic Diseases in Latin American Communities

**Definitive Diagnosis n (%)**

<table>
<thead>
<tr>
<th>Condition</th>
<th>México</th>
<th>Cuba</th>
<th>Brazil</th>
<th>Perú</th>
<th>Guatemala**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoarthritis</td>
<td>58 (2.3)</td>
<td>644 (20.4)</td>
<td>126 (4.1)</td>
<td>283 (14.4)</td>
<td>2.85</td>
</tr>
<tr>
<td>Low back pain</td>
<td>158 (6.3)</td>
<td>368 (11.7)</td>
<td>N. D.</td>
<td>65 (3.3)</td>
<td>0.5</td>
</tr>
<tr>
<td>Soft tissue rheumatism</td>
<td>37 (1.4)</td>
<td>N. D.</td>
<td>76 (2.5)</td>
<td>N. D.</td>
<td>N. D.</td>
</tr>
<tr>
<td>Fibromyalgia</td>
<td>10 (0.4)</td>
<td>20 (0.68)</td>
<td>N. D.</td>
<td>N. D.</td>
<td>1</td>
</tr>
<tr>
<td>Gout</td>
<td>10 (0.4)</td>
<td>20 (0.68)</td>
<td>N. D.</td>
<td>N. D.</td>
<td>1</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>8 (0.3)</td>
<td>39 (1.24)</td>
<td>14 (0.46)</td>
<td>10 (0.5)</td>
<td>0.52</td>
</tr>
<tr>
<td>SAMPLE SIZE</td>
<td>2,500</td>
<td>3,155</td>
<td>3,038</td>
<td>1,965</td>
<td>7,811</td>
</tr>
</tbody>
</table>

(*and Myofascial pain syndrome)  
N. D. = Not Data
# Prevalence of Rheumatic Diseases in Latin American Communities

**Definitive Diagnosis (absolute numbers)**

<table>
<thead>
<tr>
<th>Condition</th>
<th>México</th>
<th>Cuba</th>
<th>Brazil</th>
<th>Perú</th>
<th>Guatemala**</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Osteoarthritis</strong></td>
<td>58</td>
<td>644</td>
<td>126</td>
<td>283</td>
<td>223</td>
</tr>
<tr>
<td><strong>Low back pain</strong></td>
<td>158</td>
<td>368</td>
<td>65</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td><strong>Soft tissue rheumatism</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>412</td>
</tr>
<tr>
<td><strong>Fibromyalgia</strong></td>
<td>37</td>
<td></td>
<td>76</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Gout</strong></td>
<td>10</td>
<td>20</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Rheumatoid Arthritis</strong></td>
<td>8</td>
<td>39</td>
<td>14</td>
<td>10 (0.5)</td>
<td>41</td>
</tr>
<tr>
<td><strong>SAMPLE SIZE Physical Exam</strong></td>
<td>2,500</td>
<td>3,155</td>
<td>3,038</td>
<td>1,965</td>
<td>7,811</td>
</tr>
<tr>
<td>Sample (F.D.)</td>
<td>275 (F.D.)</td>
<td>3,155 (F.D.)</td>
<td>810 (R)</td>
<td>723 (R)</td>
<td>419 (R)</td>
</tr>
</tbody>
</table>

(*and Myofascial pain syndrome) N. D. = Not Data
Prevalence of Rheumatic Diseases
Latin American Communities

Definitive Diagnosis

- **Osteoarthritis**: 20.4% (Mexico), 4.1% (Brazil), 2.9% (Cuba), 14.4% (Peru), 2.5% (Guatemala)
- **Low back pain**: 6.3% (Mexico), 11.7% (Brazil), 3.3% (Cuba), 0.5% (Peru), 0.3% (Guatemala)
- **Rheumatoid Arthritis**: 0.3% (Mexico), 1.24% (Brazil), 0.4% (Cuba), 0.5% (Peru), 0.5% (Guatemala)
- **Fibromyalgia**: 1.4% (Mexico), 2.5% (Brazil), 0.3% (Cuba), 0.5% (Peru), 0.5% (Guatemala)
## Care Health Providers (%) for Rheumatic Patients in Some Latin American Communities

<table>
<thead>
<tr>
<th>Providers</th>
<th>México</th>
<th>Brasil</th>
<th>Cuba*</th>
<th>Perú</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rheumatologists</td>
<td>1.74</td>
<td>13</td>
<td>2\textsuperscript{nd}</td>
<td>5.4</td>
</tr>
<tr>
<td>General Practitioner</td>
<td>31.70</td>
<td>10</td>
<td>1\textsuperscript{st}</td>
<td>29.9</td>
</tr>
<tr>
<td>Others</td>
<td>4.56</td>
<td>39.4</td>
<td></td>
<td>29.9</td>
</tr>
<tr>
<td>Had not yet visited a physician</td>
<td>62.00</td>
<td>37.4</td>
<td></td>
<td>64.7</td>
</tr>
</tbody>
</table>

* Not percentages reported

Not data for Guatemala
Prevalence of Rheumatic Diseases in Latin American Populations

Community Based Studies Using the COPCORD Model Approach

Conclusions

1. Comparisons of the burden of rheumatic complains and prevalence of specific rheumatic diseases are difficult because differences in:
   - Sample selection (stratified by age and sex or not)
   - Training of the interviewers (nurses, familial doctors, residents, rheumatologists)
   - Level of pain elected to qualify the “POSITIVE RESPONDERS”
   - Ratio: Physical exam/Positive Responders
   - Methodology to evaluate disability (PADL or HAQ)
   - Data informed
Prevalence of Rheumatic Diseases in Latin American Populations

Community Based Studies Using the COPCORD Model Approach

Conclusions

2. Osteoarthritis and Low back pain were the most prevalent rheumatic diseases in the majority of studies. It is of note the few data about soft tissue rheumatism and fibromyalgia

3. Rheumatoid arthritis, gout, spondyloarthropaties and Systemic Lupus Erythematosus were less prevalent than in the caucasian populations
Conclusions

4. Wide differences were reported
   ▪ In the prevalence:
     Musculoskeletal complaints: from 12.15 to 46.5
     Disability: from 6.5 to 55.6
   ▪ In the prevalence of the most common diseases:
     Osteoarthritis: from 2.3 to 20.4%
     Low back pain: from 0.5 to 11.7%
COPCORD Studies in Latin America

Recommendation: Standards are needed

- **Sample selection**
  - Minimum Age (15, 16 or 18?)
  - Sample Unit: The domicile or stratified by age and sex
  - Intensity of pain to qualify as “Positive” (VAS ≥ 1 or ≥ 4, Ordinal Scale?)
  - Last 7 days and ever

- **Individuals who must be examined: all positive responders**

- **Physical exam: Rheumatologists**

- **Reports**
  - Age: Means and class intervals (same intervals)
  - Socio demographic descriptors
    - Education level: Years of formal education
    - Working status: kind of work
    - Annual Income?
Thanks