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THE INFLUENCE OF AGING ON THE PAIN/FUNCTIONAL LIMITATION RELATIONSHIP IN PERUVIAN PATIENTS WITH KNEE OA

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Purpose: Pain and functional limitation are major outcomes in knee OA. Several factors including race, ethnicity and age influence pain perception and functional impairment in knee OA patients. Therefore, we examined the relationship between pain and disability in Peruvian patients with symptomatic knee OA and the influence of age in this relationship.

Methods: Cross-sectional study. Two hundred fifteen outpatients with knee OA attending rheumatology and rehabilitation clinics in several hospitals in Lima, Peru were selected by inclusion and exclusion criteria. We used self-reported measures for pain and disability: 0-10 VAS for global pain (VAS-GP), and pain and function subscales of the Spanish version of WOMAC Index. We divided our sample into three age groups: 40–60y, 60–75y, 75-90y. The relationships between variables were studied by ANOVAs, regression analysis, Pearson’s correlation, and Z-test. Internal consistency and factor structure of WOMAC were also examined.

Results: The relationship between VAS-GP and WOMAC function (WOMAC-f) subscale followed a linear model (r = 0.43, 95% CI= 0.31-0.54; p=3.2 x 10^-11), as well as the relationship between WOMAC pain (WOMAC-p) and WOMAC-f subscales (r= 0.70, 95% CI= 0.62-0.76; p< 1 x 10^-21). The relationship of pain and functional limitation is more significant using WOMAC-p than using WOMAC-GP (z=3.97, p= 0.000072). After, stratifying the sample into age groups the correlation coefficients are shown in Table 1. Internal consistency was high for WOMAC score total and the subscales (Cronbach’s α = 0.70-0.95). Factor analysis showed that WOMAC items loaded in 3 factors according to activity type, showing some differences among the age groups.VAS-GP and WOMAC-f subscale kept a linear relationship (r = 0.48, 95% CI= 0.36-0.58; p=6.1 x 10^-11).

<table>
<thead>
<tr>
<th>Age groups</th>
<th>VAS-GP/WOMAC-f</th>
<th>WOMAC-p/WOMAC-f</th>
<th>Difference between &quot;r&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r (95% CI)</td>
<td>r (95% CI)</td>
<td>Z test p value</td>
</tr>
<tr>
<td>40-60y</td>
<td>0.43 (0.22-0.62)</td>
<td>0.71 (0.55-0.81)</td>
<td>2.24 0.025</td>
</tr>
<tr>
<td>60-75y</td>
<td>0.50 (0.34-0.63)</td>
<td>0.70 (0.59-0.79)</td>
<td>2.34 0.019</td>
</tr>
<tr>
<td>75-90y</td>
<td>0.08 (-0.32-0.45)</td>
<td>0.68 (0.45-0.84)</td>
<td>2.56 0.010</td>
</tr>
</tbody>
</table>

Conclusions: In knee OA patients, self-reported pain and functional limitation displayed a significant positive linear relationship, not due to random association. This relationship is maintained in middle age as well as elderly patients. The relationship between pain and functional limitation in knee OA is more significant using a disease specific measure (WOMAC-p subscale) than using a single score (VAS-GP), particularly in elderly patients over 75 years. These results show that pain has a very strong impact upon functional limitation in Peruvian patients with knee OA.

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SPATIAL SUMMATION OF PAIN ASSESSED BY COMPUTERIZED CUFF PRESSURE ALGOMETRY IS NOT FACILITATED IN PATIENTS WITH KNEE OSTEOARTHRITIS

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Purpose: Earlier studies indicate that sensitization of the central nociceptive system (i.e. a central augmentation of painful stimuli) may be present in some chronic pain conditions, e.g. fibromyalgia. Knee osteoarthritis (OA) patients suffer chronic pain in and around the affected joint(s) and central sensitization may therefore be present in this patient group as well. In the current study we assessed central sensitization by measuring the extent of spatial summation in a non-painful region in patients with knee OA using computerized cuff pressure algometry.

Methods: Thirteen women with knee OA (ACR-criteria; mean WOMAC pain: 20 mm; mean WOMAC stiffness: 21 mm; mean WOMAC function: 17 mm), mean age 61.1 (SD 13.2) years and 13 healthy female controls (HC), mean age 57.8 (SD 5.9) years were included. A double-chambered, computer-controlled, pneumatic tourniquet cuff was placed over the gastrocnemius muscle. The cuff was inflated with a constant compression rate (1.0 kPa/s), and the subject rated the pain intensity continuously on an electronic visual analogue scale (VAS). The subject stopped the inflation at the pressure-pain tolerance threshold (PTT). The pressure at which VAS exceeded 0 for the first time was defined as the pressure-pain detection threshold (PDT). Three assessments were made, using both cuff-chambers, and 3 assessments using the proximal chamber only. The subjects were blinded to all thresholds measured, and there was a 5-minute interval between each assessment. Results are presented as means (±standard error of mean). Data were compared between groups using the two sample t-test and the paired sample t-test within groups.

Results: In OA, PDT showed a significant difference between assessments with single (32.8 ±4.1 kPa) and double chambers (25.2 ±2.8 kPa, p=0.005). This was also found in HC (single chamber: 37.2 ±5.0 kPa, double chamber: 25.3 ±2.3 kPa, p=0.007). A significant difference in PTT was found in OA when stimulating with single (56.0 ±5.2 kPa) and with double chambers (43.9 ±3.3 kPa, p=0.01), which also was the case in HC (single chamber: 62.2 ±6.1 kPa, double chamber: 44.7 ±2.6 kPa, p=0.006). No differences were observed between groups for spatial summation expressed as the ratio between single and double chamber, PDT ratio (OA: 1.29 ±0.08, HC: 1.43 ±0.13) (p=0.348), or PTT ratio (OA: 1.28±0.08, HC: 1.39±0.11) (p=0.434).

Conclusions: With the current parameters to assess facilitated spatial summation there is no indication of central sensitization in patients with knee OA. Accordingly, central sensitization does not act as a confounder in the pain evaluation in this group of knee OA.

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LITOZIN, A NATURAL REMEDY, REDUCES JOINT PAIN AND THE CONSUMPTION OF RESCUE MEDICATION IN MIDDLE-AGED WOMEN WITH OSTEOARTHRITIS

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Purpose: A standardized dried powder, LitoZin, made from Rosa canina as earlier has been reported to exert anti-inflammatory...