Prevalence of Fibromyalgia in Iraqi People with Joint Hypermobility Syndrome

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ABSTRACT:
BACKGROUND:
Joint hypermobility occur when large or small joints in the body are able to extend beyond their normal physiological limits. Fibromyalgia is characterized by chronic diffuse pain. Both conditions are shared with various soft tissue problems and this draw the attention of a lot of researchers and clinicians to look for possible relations between them.

OBJECTIVE:
To detect the correlation between fibromyalgia in Iraqi people with joint mobility.

METHODS:
One hundred Iraqi individuals with joint hypermobility syndrome according to the Beighton Score were studied and compared with another hundred normal mobile individuals matched for age and sex serving as control group. Full history was taken and complete clinical examination was done for all individuals in both groups. The American College of Rheumatology 1990 Criteria for fibromyalgia were applied for all individuals in both groups. They were questioned about presence of chronic widespread pain, sleep disturbance, mood change and fatigue. Detection of at least 11 of 18 tender points by digital palpation at specific soft tissue sites was needed for diagnosis of FMS.

RESULTS:
There was statistically significant increase frequency of fibromyalgia among individuals with hypermobile joints compared to normal mobile people. The frequency was 22% in the individuals with hypermobile joints versus 11% in the individuals with normal mobile joints, which was reported mainly in females between the age 30-59 years.

CONCLUSION:
The results showed significant relationship between fibromyalgia and joint mobility.

KEY WORDS: fibromyalgia , joint hypermobility syndrome.
PREVALENCE OF FIBROMYALGIA

Table (1): The Beighton Score.
- From a standing position and with knees straight, bend over and place both hands flat on the floor without bending the knee (one point).
- Bend the knee backwards (one point for each knee that can do this).
- Bend the elbow backwards (one point for each elbow).
- Bend the thumb backwards so that it touches the forearm (one point for each thumb).
- Stretch the little finger backwards more than 90 degree (one point for each little finger).

In general joint laxity is maximal at birth, declining rapidly during childhood, less rapidly during the teens, more slowly during adult life, women are generally more lax joints than men at all ages and there is a wide ethnic variations(9). The prevalence of hypermobile joints in the healthy adult population is between 5%-15 %\(^{(10)}\). In contrast Al-Rawi et al. reported higher prevalence rate among Iraq University Students studied between age 20-24 year (39% in females and 25% in males)\(^{(11)}\). Joint hypermobility may cause widespread arthralgia in the individuals due to misuse or overuse of hypermobile joints, tendons and ligamentous structures which play important role in stability of joints are exposed to high loads and stresses during movement and activity, the overall integrity of the musculoskeletal mechanism depends upon a composite effect of intact ligamentous structure as well as good muscle tone, it is thus reasonable to postulate the excessive laxity of ligaments may predispose an individual to repeated microtrauma during even normal activity, possible reason for recurrent joint trauma in hypermobile individuals may be the recently demonstrated impairment of proprioception noted in both small and large joint\(^{(12,13)}\). It is aimed to study the correlation between fibromyalgia and joint hypermobility syndrome.

**PATIENTS AND METHODS:**
This across-sectional was study carried out at the Rheumatology Unit in Baghdad Teaching Hospital from Octber 2006 till March 2008. One hundred Iraqi (89 females and 11 males) individuals had joint hypermobility syndrome according to Beighton Score were included in the study. Another hundred individuals (92 females and 8 males) with normal mobile joints match for age and sex were collected from relatives and accompanying persons with patients attending the Rheumatology Unit were studied serving as a control group. Full history was taken and complete clinical examination was done for all individuals in both groups. The American College of Rheumatology 1990 Criteria for fibromyalgia were applied to all hypermobile and normal mobile individuals included in the study. Individuals in both groups were inquired about the presence of chronic widespread pain in left and right sides of the body, above and below the waist and axial skeleton for at least three months duration then they were examined for the presence of local tender points. Patients with hypothyroidism, polymyalgia rheumatica, polymyositis, systemic lupus erythematosus and rheumatoid arthritis were excluded from the study. A signed consent was taken from all individuals studied.

**Statistical Analysis:** Data were analyzed by using chi-square test and T-test. P-value < 0.05 was considered significant.

**RESULTS:**
The demographic characteristic of 100 individuals with joint hypermobility syndrome and 100 individuals with normal mobile joints (controls) are shown in table (2).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Individuals with hypermobile joint n=100 N (%)</th>
<th>Individuals with normal mobile joint n=100 N (%)</th>
<th>P. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean ± SD)</td>
<td>37.49 ± 13.14</td>
<td>36.37 ± 12.65</td>
<td>(NS) 0.188</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td>(NS) 0.46</td>
</tr>
<tr>
<td>Male</td>
<td>11 (11)</td>
<td>8 (8)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>89 (89)</td>
<td>92 (92)</td>
<td></td>
</tr>
</tbody>
</table>

n= number, % percentile, ns P. value is not significant.
The frequency of FMS in 100 individuals with joint hypermobility syndrome was 22% compared to 11% in 100 individuals with normal mobile joints and P. value was 0.036 as shown in Table (3).
PREVALENCE OF FIBROMYALGIA

Table (3): Frequency of FMS in 100 individuals with joint hypermobility syndrome and 100 individuals with normal mobile joint.

<table>
<thead>
<tr>
<th>Group</th>
<th>FMS Present n=33</th>
<th>FMS Absent n=167</th>
<th>P. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals with hypermobile joint</td>
<td>22 (22)</td>
<td>78 (78)</td>
<td>0.036*</td>
</tr>
<tr>
<td>Individuals with normal mobile joint</td>
<td>11 (11)</td>
<td>89 (89)</td>
<td></td>
</tr>
</tbody>
</table>

P. value was significant.
The frequency of FMS among 100 individuals with joint hypermobility syndrome was reported more common in the age group 30-59 year compared to those aged 15-29 year and FMS was reported more frequently in females compared to males as shown in Table (4).

Table (4): Frequency of FMS among 100 individuals with joint hypermobility syndrome in relation to age and gender.

<table>
<thead>
<tr>
<th>Variables</th>
<th>FMS Present n=22</th>
<th>FMS Absent n=78</th>
<th>P. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-29</td>
<td>5 (11.9)</td>
<td>37 (88.1)</td>
<td>0.038*</td>
</tr>
<tr>
<td>30-59</td>
<td>17 (29.3)</td>
<td>41 (70.7)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>0 (0)</td>
<td>11 (100)</td>
<td>(NS) 0.063</td>
</tr>
<tr>
<td>Females</td>
<td>22 (24.7)</td>
<td>67 (75.3)</td>
<td></td>
</tr>
</tbody>
</table>

P. value was significant; ns P. value was not significant.

DISCUSSION:
The study aimed to show the possible association of fibromyalgia to joint hypermobility syndrome in Iraqi individuals. Fibromyalgia was reported in 22 individuals (22%) with joint hypermobility syndrome compared to 11 individuals (11%) with normal mobile joints (P<0.03), which does indicate an association between the two conditions. The rate reported was lower than in comparison to its prevalence in other diseases as 25% of patients with rheumatoid arthritis\(^\text{(14)}\) and 30% of patients with systemic lupus erythematosus\(^\text{(15)}\). Its higher than the prevalence rate of fibromyalgia in patients with bronchial asthma 8.3%\(^\text{(16)}\). The study showed statistically significant of the frequency of FMS among individuals with hypermobile joints compared to individuals with normal mobile joint, these results are in agreement with the findings of others\(^\text{(17, 18)}\).

Fibromyalgia was noted more frequently in female individuals with joint hypermobility syndrome (24.7%) versus (0%) in male gender and the frequency of fibromyalgia was more in individuals aged 30 and above compared to those below the age of 30 year as shown in table (4) and the results are in agreement with the findings of others\(^\text{(19)}\).

CONCLUSION:
There is a positive correlation of the presence of FMS and joint mobility.

REFERENCES: