Prevalence of Fibromyalgia in Iraqi People with Joint Hypermobility Syndrome

Khudhir Zghayer Mayouf Al-Bidri

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 firbomyalgia 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 quationed 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.

INTRODUCTION:

Fibromyalgia syndrome (FMS) is characterized by chronic diffuse pain, absence of inflammatory or structure musculoskeletal abnormalities with fatigue, sleep disturbance, mood changes and physical examination as well as laboratory tests are unrevealing except for tender points which are anatomic points that are considered positive when individual complains of pain upon the application of pressure (the amount of pressure required to blanch the examiner nail which approximate of four kilogram)[1]. The prevalence of fibromyalgia increases with age from 2% at age of 20 years to 8% at age of 70 years [2]. The prevalence of FMS among school children and adolescents in Iraq was 1.5% (2.9% for girls and 0.5% for boys) [3]. The exact cause of fibromyalgia is still not well understood but mechanisms which have been suggested includes abnormal pain perception, sleep disturbance, abnormal circulating levels of central neurochemical substances and skeletal muscles abnormalities structural or functional[4].

Rheumatology Unit, Medical Department, College of Medicine, Baghdad University .

Differential diagnosis of FMS includes hypothyroidism, polymyalgia rheumatica, polymyositis, early systemic lupus erythematosus and early rheumatoid arthritis[5]. There is no specific treatment for fibromyalgia successful management is often challenging, the most important aspects are firm diagnosis, reassurances, changing patient behavior, aerobic exercises, pharmacologic therapy like tricyclic antidepressant as well as complementary therapies (trigger point injection, myofacial release, a cupuncture and chiropract manipulation)[6]. When the musculoskeletal symptoms occur in hypermobile people in the absence of any other systemic rheumatological disorder it is called joint hypermobility syndrome (JHS)[7]. The most widely method used is to test whether the individual can perform a series of maneuvers of the nine modified Beighton Scores and if the individual could perform four points or more of the possible nine scores it is considered hypermobile joint and when Beighton scores is less than three it is considered normal mobile joint as shown in table (1) [8].

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, decling 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 ethenic 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 (2): Demographic characteristics of 100 individuals with joint hypermobility syndrome and 100 individuals with normal mobile joints.

Variables	Individuals with hypermobile joint n=100 N (%)	Individuals with normal mobile joint n=100 N (%)	P. value
Age (mean ± SD)	37.49 ± 13.14	36.37 ± 12.65	(NS) 0.188
Gender			
Male	11 (11)	8 (8)	(NS) 0.46
Female	89 (89)	92 (92)	

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).

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

Group	FMS Present n=33 N (%)	FMS Absent n=167 N (%)	P. value
Individuals with hypermobile joint	22 (22)	78 (78)	0.036*
Individuals with normal mobile joint	11 (11)	89 (89)	

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.

Variables	FMS Present n=22		FMS Absent n=78		P. value
	N	(%)	N	(%)	
Age group (years)					
15-29	5	(11.9)	37	(88.1)	0.038*
30-59	17	(29.3)	41	(70.7)	
Gender					
Males	0	(0)	11	(100)	(NS) 0.063
Females	22	(24.7)	67	(75.3)	

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[14] and 30% of patients with systemic lupus erythematosus[15].

Its higher than the prevalence rate of fibromyalgia in patients with bronchial asthma 8.3%[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 [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 [19].

CONCLUSION:

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

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