

FIBROMYALGIA RESEARCH REVIEW

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Although fibromyalgia syndrome (FMS) is frequently associated with adult patients, FMS is increasingly being recognised among children and adolescents. This month we focus on two recent research papers that deal with treatment for children with FMS and the relationship between adolescent FMS sufferers and their family.

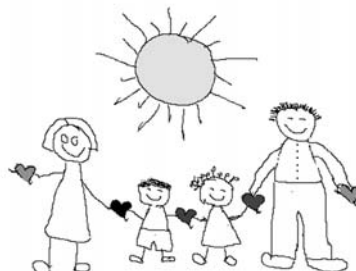
ADOLESCENT FIBROMYALGIA SUFFERERS MAY EXPERIENCE AN IMPAIRED RELATIONSHIP WITH THEIR FAMILY.

Juvenile primary fibromyalgia syndrome (JP-FMS) is a chronic pain syndrome that occurs in children and adolescents, primarily among adolescent girls. The symptoms of JP-FMS (generalised musculoskeletal pain, sleep difficulty and irritable bowel syndrome), lead to high levels of disability among adolescent sufferers, who may struggle with regular school attendance, peer relationships and experience considerable emotional distress. It has been reported that the familial environment is important in the ability of adolescents to adapt to JP-FMS, however in-depth research is lacking. Therefore a group of researchers from various universities in the US aimed to collect information about peer and family relationships of adolescents with JP-FMS. 55 JP-FMS patients and 55 healthy adolescents were assessed by interview for a number of factors, including depression, emotional and behavioural problems, social acceptance and fibromyalgia symptoms (anxiety, pain, fatigue, stiffness and sleep disturbance). Furthermore, parents were also assessed, not only for potential fibromyalgia symptoms, but also for their perception of the family climate by means of a family functioning questionnaire.

The results revealed substantial differences in the emotional functioning of adolescents with juvenile primary fibromyalgia syndrome and their mothers, as well as differences in the family environment of JP-FMS sufferers, compared with their healthy peers. Mothers (or the primary caregiver) of JP-FMS patients reported that their child experienced internalising symptoms (anxiety and depression), as well as externalising symptoms (difficulties with attention and conduct problems). In contrast, the JP-FMS sufferers themselves did not report greater depression or self-esteem problems than their healthy peers. The authors of this study explain such a discrepancy by the fact that young fibromyalgia sufferers may focus more on pain and activity limitations and less on their emotional responses.

Interestingly, this study also found that the parents of JP-FMS sufferers were also more likely to experience chronic pain and depression than the parents of healthy adolescents, supporting a genetic basis for fibromyalgia. Moreover, poorer family functioning was associated with JP-FMS families. Specifically, JP-FMS family relationships tended to be characterised by higher levels of conflict and lower levels of cohesion ("togetherness"). Poorer family functioning may be a consequence of the pain or emotional distress experienced by JP-FMS families, however will only exacerbate the problems experienced by JP-FMS adolescents with chronic pain. Finally, the researchers suggest that dysfunctional parent-child relationships may also reduce the effectiveness of treatment programs such as cognitive behavioural therapy

"Family factors, emotional functioning, and functional impairment in juvenile fibromyalgia syndrome" 2008. S Kashikar-Zuck, AM Lynch, S Slater, TB Graham, NF Swain and RB Noll. *Arthritis and Rheumatism* 59 (10):1392-1398.



EFFECTIVENESS OF AEROBIC EXERCISE IN CHILDREN WITH FIBROMYALGIA.

Juvenile fibromyalgia syndrome (FMS) is currently poorly understood, however it is thought that many adult FMS sufferers are deconditioned and have reduced levels of aerobic fitness when compared with normal healthy adults. This chronic deconditioning has also been suggested to lead to decreased physical activity and a worsening of fibromyalgia symptoms. Many scientific studies report that exercise results in improved physical fitness and is able to reduce pain, fatigue, depression and anxiety among adult FMS sufferers. However, no studies to date have analysed the effect of exercise among children with FMS. Thus a group of Canadian researchers aimed to determine the feasibility of an exercise trial among juvenile FMS sufferers.

The Canadian researchers recruited children aged 8-18 years that had been diagnosed with FMS. The children participated in a 12-week exercise program consisting of a once-weekly supervised aerobic exercise or qi-gong session and twice-weekly unsupervised sessions. 16 children were assigned to the aerobic exercise session, which included a range of low-impact movements inspired by dance and aerobics. In contrast, the 14 children assigned to the qi-gong group were required to perform 18 qi-gong postures. Qi-gong is a traditional Chinese exercise method that combines gentle flowing motions to promote blood flow and flexibility. The outcome of both forms of exercise was tested by fitness monitoring of the children and by questionnaire.

Although the adherence rate (ability of the children to stick to the exercise program) was estimated at between 50-72%, this compares fairly with similar trials conducted on adult FMS sufferers, supporting the feasibility of an exercise program for juvenile fibromyalgia sufferers. Although measures of fitness did not change after the 12-week fitness program, significant improvements in physical functioning, pain and fatigue were reported among the children participating in both the aerobic exercise and qi-gong exercise groups. Therefore this initial trial on a small number of FMS patients (30) shows promise that exercise may be a feasible treatment for children with fibromyalgia.

"Feasibility and Effectiveness of an Aerobic Exercise Program with Fibromyalgia: Results of a Randomized Controlled Pilot Trial" 2008. S Stephens, BM Feldman, N Bradley, J Schneiderman, V Wright, D Singh-Grewal, A Lefebvre, SM Benseler, B Cameron, R Laxer, C O'Brien, R Schneider, E Silverman, L Spiegel, J Stinson, PM Tyrrell, K Whitney and ML Shirley. *Arthritis and Rheumatism* 59:1399-1406.

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