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RELATIONSHIP BETWEEN THE PARAMETERS OF SPINE SAGITTAL CONTOUR AND INDICATORS OF FUNCTIONAL STATE OF THE MUSCULOSKELETAL SYSTEM IN PATIENTS WITH SCHEUERMANN'S DISEASE

ABSTRACT. Background. Patients with both forms of Scheuermann's disease are characterized by the spine deformation and low back pain, hypertonus of the extensor muscles with limited mobility of spine and hip, impairment of life quality. However, the relationship of clinical and radiographic parameters studied enough. **Objective**. To establish the correlation of the spine sagittal contour to parameters of the musculoskeletal system functional state in patients with different variants of Scheuermann's disease. **Methods.** Clinical with the definition of the spine mobility (test "fingers - floor"), the thoracic and lumbar spine flexibility (the Schober method), the hip mobility, radiometric with determination of the thoracic kyphosis and lumbar lordosis magnitude (the Cobb method), electromyography with the determination of the amplitude and frequency of biopotentials of right and left half of the m. erector spinae lumbar part, statistics with correlation analysis. **Results**. Different correlations between the studied parameters in classical and atypical forms of Scheuermann's disease were found. **Conclusion**. In patients with the classic form of Scheuermann's disease value of kyphotic spinal deformity directly influence on the spine mobility and the lumbar spine flexibility, disability index, the level of anxiety and pain symptoms and one indirectly affects the pain intensity. In atypical form of Scheuermann's disease value of lumbar lordosis was associated with the pain intensity, and the magnitude of the thoracic kyphosis influenced on a level of anxiety and pain symptoms mainly. These parameters limited spine mobility and range of motion of the hip.

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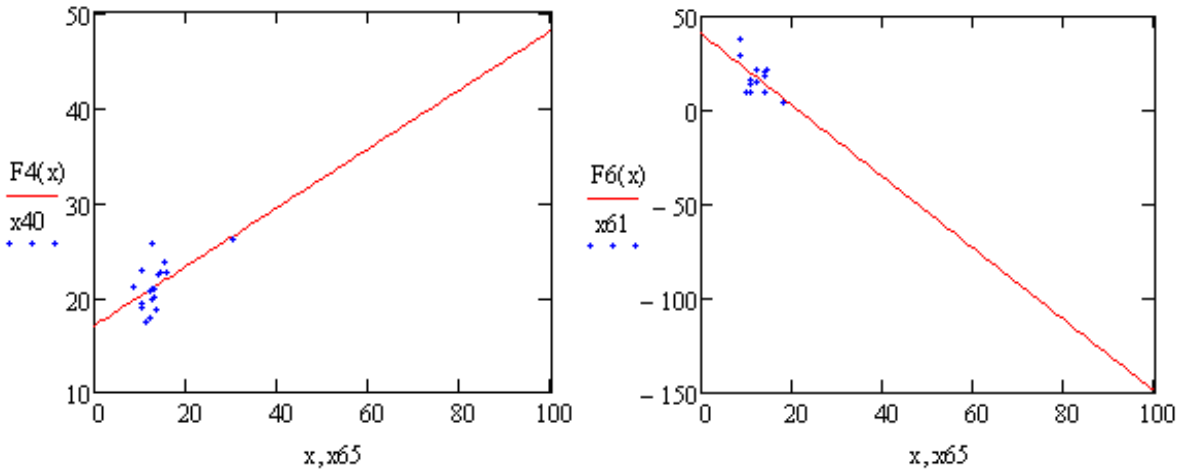

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Fig. 1. Regression line of the thoracic kyphosis value on the level of anxiety due to pain expectation (Pain and Anxiety Symptoms Scale) (a) and on the results of "fingers-floor" test in classical form of Scheuermann's disease – approximated curves.

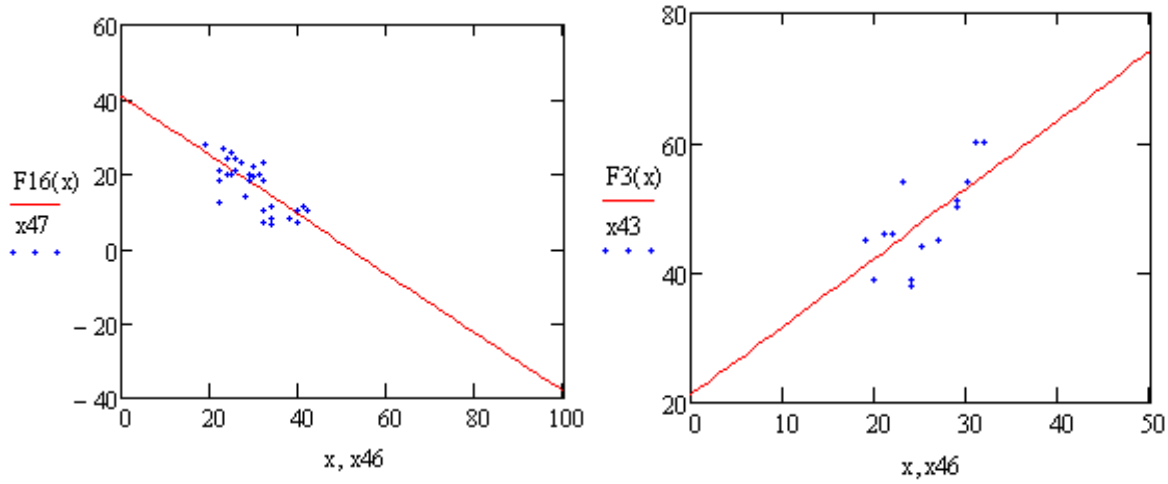

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Fig. 2. . Regression line of the pain intensity (Visual Analogue Scale) on the results of "fingers-floor" test and lumbar lordosis value in atypical form of Scheuermann's disease – approximated curves.

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