Effect of Gender on Thoracic and Lumbar Vertebral Curvatures and Flexibility in Normal Subjects

Thesis

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By

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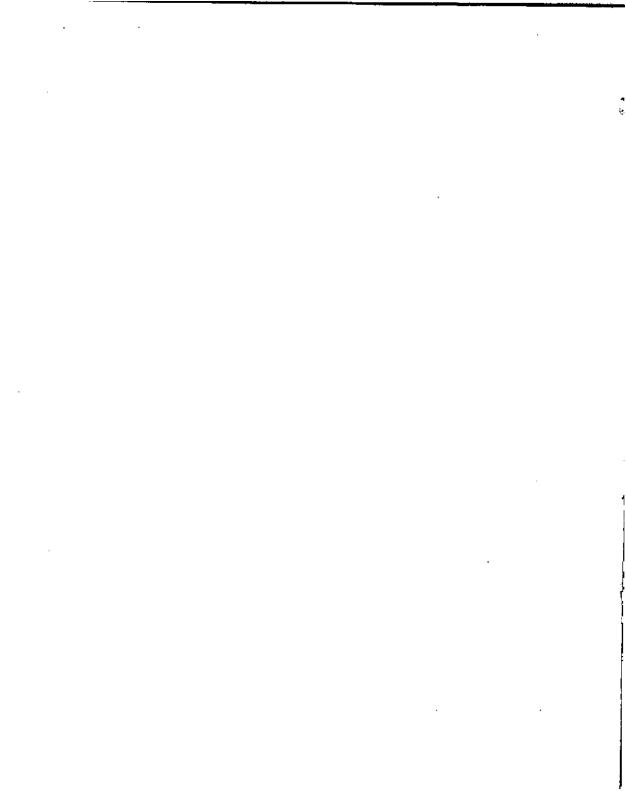
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Abstract

Effect of Gender on Thoracic and Lumbar Vertebral Curvatures and Flexibility in Normal Subjects. Abeer Abd EL-Fttah Ali Khaleel; Supervisors, Ass. Prof. Ragia Mohamed Kamel*, Dr. Neveen Abd El Latif Abd El Raoof*

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Background: Sagittal spinal curves and flexibility present a wide range for normal individuals within normal limits. Purpose: investigate the effect of gender on thoracic and lumbar curvatures and flexibility in normal subjects. Subjects: 40 normal subjects from both genders participated in this study and assigned into two groups: Group (A) included 20 normal males with mean age of (21.45 ± 2.15) years, height (177.3 ± 7.56) cm, weight (75.95 ± 7.81) kg. and BMI (23.56±1.038) kg/m² and Group (B) included 20 normal females with mean age of (21.65±2.48) years, height (159.9±6.86) cm, weight (60.22 ± 8.084) kg, and BMI (23.45 ± 1.308) kg/m². Methods: Assessment of thoracic and lumbar curvatures using the Formetric system was used to measure the lordotic angle and kyphotic angle, while the new noninvasive electronic device Spinal mouse was used to measure the thoracic and lumbar spine range of motion. Results: There were significant differences in the thoracic and lumbar curvatures between both genders P= 0.0132, 0.0039 respectively, and there was a significant difference in the lumbar flexibility between both genders P= 0.361 while there was no significant difference in thoracic flexibility between both genders P= 0.5352. Conclusion: This study concluded that normal females had higher thoracic and lumbar curvatures than normal males, also normal females had higher lumbar spine ROM than normal males while there was no significant difference between normal females had males regarding thoracic spine ROM.

Key words: Thoracic curvature, lumbar curvature, thoracic flexibility, lumbar flexibility, lordotic angle and kyphotic angle.



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List of Abbreviations

BMI: Body Mass Index

Fig: Figure

ROM: Range of Motion

2D: Two dimensions

3D: Three dimensions