



## Designing And Implementation Of An Intelligent Monitoring System For Hand Rehabilitation Exercises

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**Background:** intelligent hand rehabilitee exerciser provides direct supervising on therapeutic movements which patient with hemiplegia disorder have done during treatment sessions. This instrument improves hand functions without continuous present of therapist.

**Objectives:** purpose of this study is indirect palpation control in hand rehabilitive exercises among hemiplegia patients. In that, encourage hemiplegia patients to repeat hand therapeutic movements without continuous present of therapist. Finally, intelligent hand rehabilitee exerciser flourishes the quality and quantity hand functions.

**Methods:** participants include 13 hemiplegia patients and 3 healthy persons who followed seventy therapeutic sessions. Functional movements and quality of life were assessed. moreover recorded captures were examined by specialists.

**Result:** kinematic parameters (average and maximum velocity, maximum angular velocity), acceleration, accurate movements or ability to induce profit motor pattern 3-5 and trunk movements pattern with final scoring the movements showed increasing the upper limb function with intelligent hand rehabilitee exerciser.

**Conclusion:** Results depict intelligent hand rehabilitee exerciser increased in accurate therapeutic exercises and quality of life in hemiplegia patients also, confidence coefficient of specialists had improvement.

**Key words:** intelligent monitoring system



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