



The 10<sup>th</sup> National Conference and The 17<sup>th</sup> Annual Scientific Meeting  
of Indonesian Physical Medicine and Rehabilitation Association  
(MUKERNAS X & PIT XVII PERDOSRI)

October 10<sup>th</sup> - 13<sup>th</sup>, 2018  
Claro Hotel, Makassar, South Sulawesi, Indonesia



**PIT XVII PERDOSRI**  
**MAKASSAR 2018**

**ABSTRACTS AND  
PROGRAM BOOK**

● ORGANIZED BY : The Indonesian Physical Medicine and Rehabilitation Association (PERDOSRI)



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# ABSTRACTS AND PROGRAM BOOK



## The 10th National Conference and The 17th Annual Scientific Meeting of Indonesian Physical Medicine and Rehabilitation Association (MUKERNAS X & PIT XVII PERDOSRI)

### *Physical Medicine and Rehabilitation to the Utmost Functional Fitness*

October 10<sup>th</sup> – 13<sup>th</sup>, 2018 • Claro Hotel • Makassar • South Sulawesi • Indonesia

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## ORAL PRESENTATION 4

### Effects of Circuit Training and Elderly Gymnastic on Elderly Functional Capacity

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**Introduction:** The aging process tends to reduce physical fitness and functional capacity, resulting in difficulties in daily life activities. Exercise is an effort to counter the aging process and elicit a broad range of physiological changes. The common aerobic exercise for elderly living in nursing home is elderly gymnastic (EG) by *Kementerian Pemuda dan Olahraga*. Another alternative to improve functional capacity in elderly is circuit training (CT) which combines aerobic and resistance exercise. Resistance training is generally considered to be a promising intervention for reversing the loss of muscle function and deterioration of muscle structure associated with the aging process. The Two-Minute Step Test (2MST) is one of many alternatives to measure functional capacity, and has the advantage of requiring limited space, taking short time, and using simple equipment. The objective of this study is to know the effects of circuit training and elderly gymnastic on the functional capacity of the elderly. **Material and Methods:** 26 subjects underwent an experimental comparative study at the Wening Wardoyo Nursing Home in Ungaran, Central Java, randomly assigned into two groups. One group consist of 13 subjects was given circuit training and the rest of subjects was given elderly gymnastic. The intervention was given three times a week for four weeks. The elderly functional capacity was measured using 2MST pre and post intervention. **Result:** The groups were analyzed using Mann-Whitney U test. The result of the 2MST at baseline showed no significant difference ( $p=0,067$ ), after intervention there was significant difference of the 2MST between groups (CT  $100,08\pm 08$  vs EG  $89,00\pm 7,55$   $p=0,02$ ). There was improvement of the 2MST in both of circuit training group ( $\Delta 2MST$  CT  $12,9\pm 8,69$   $p<0,001$ ) and in the control group ( $\Delta 2MST$  EG  $7,38\pm 3,62$   $p=0,001$ ), moreover, the intervention group had greater improvement in 2MST compared to control group ( $p=0,037$ ). **Conclusion:** Circuit training is more effective compared to elderly gymnastic in improving elderly functional capacity.

**Keywords:** *Circuit Training, Elderly Gymnastic, Functional Capacity, Two-Minute Step Test*



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ISBN 978-602-6490-14-8

