

Evaluation of Physical Fitness in Children with Nephrotic Syndrome: A Cross Sectional Pilot Study

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ABSTRACT

Introduction: Pediatric Nephrotic Syndrome (NS) is one of the common diseases; primarily managed by steroid therapy. Consequently, increasing weight gain and reduced quality of life is well established in the literatures. However, no literatures addressed the physical fitness component in these population. Hence, the objective of the study is to evaluate physical fitness component to understand NS children's fitness levels.

Methods: Following ethical approval, parent consent and assent from the participants; 17 children with clinically diagnosed Idiopathic NS were recruited from tertiary care hospital paediatric OPD. Assessment followed standard guidelines for hand-grip strength (Camry Hand dynamometer), cardiorespiratory endurance (2 Minute Walk Test) and Flexibility (Sit and reach test). The data is analysed using descriptive statistics.

Results: Study included (64.7%) girls with mean age, BMI and duration of steroid therapy 8 ± 2.60 years; 19.32 ± 5.6 Kg/m² and 4 ± 4.9 years respectively. Mean of dominant hand grip strength of girls (8.26 ± 4.5 Kgs) and boys (8.2 ± 2.8 Kgs); 2 MWT distance (159.37 ± 38.55 m) and SRT distance (6.7 ± 4.61 cm).

Conclusions: Results suggested that compared to the other physical fitness components hand grip strength showed a significant reduction in comparison with the age matched normative data. Cardiorespiratory endurance and flexibility showed a minimal reduction. There is a strong need to analyse the muscle strength component in detail among pediatric NS population. Also, there is a need for a larger sample size studies and develop a structured fitness program for children with NS to improve their overall health.

Keywords: Pediatric Nephrotic Syndrome, Physical fitness, Hand-grip strength

