

Topic:7. Physiotherapy

Title:Decreased performance of airway clearance and physical exercise with age in the Swedish CF population - what's the solution?

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Text: Objectives: Airway clearance and physical exercise are important components and part of physiotherapy in the basic treatment in Swedish CF care. Inhalation therapy and physiotherapy are introduced at diagnosis. This study aims to describe the current use of inhalation therapies, airway clearance therapy (ACT) and physical exercise in the Swedish CF population.

Methods: Data from annual check-ups 2018 was collected from the Swedish CF registry. Criteria for inclusion was confirmed CF diagnosis. Patients were divided into four age groups (grp 1: 0≤6 yrs; grp 2: 7≤11 yrs; grp 3: 12≤17 yrs; grp 4: ≥18 yrs). Genotype, FEV₁% predicted, frequency of inhalation therapy and ACT sessions, number of ACT techniques used, and frequency of physical exercise sessions were recorded.

Results: In total, 544 patients were included. Results from collected data in the four age groups are presented in table 1.

	Grp 1: 0≤6 yrs	Grp 2: 7≤11 yrs	Grp 3: 12≤17 yrs	Grp 4: ≥18 yrs
Number of patients (male)	37(18)	91(47)	87(48)	329(177)
Age**	5.5(4.6-7)	9.6(7-11.7)	14.6(12-17.9)	31.4(18.1-76.5)
Homozygous F508del	20	45	39	144
FEV ₁ % pred*	101(±16)	95(±15)	83(±17)	72(±23)
Inhalation therapy/day*	1.95(±0.23)	1.77(±0.5)	1.75(±0.48)	1.28(±0.75)
ACT/day*	1.89(±0.39)	1.75(±0.5)	1.7(±0.55)	1.09(±0.82)
Number of ACT techniques used*	2.27(±0.68)	2.48(±0.73)	3.07(±1.03)	2.95(±1.36)
Physical exercise/week*	1.05(±1.27)	2.29(±1.01)	2.08(±1.22)	1.6(±1.38)

[Table 1 (*Mean (SD), **Median (range))]

Conclusion: Children perform inhalation and ACT more frequently than adults. Number of ACT techniques used increases with age. Physical exercise is performed in the whole population studied but frequency decreases with age. Decreased performance of airway clearance and physical exercise with increased age is a problem that may need to be addressed with a different type of physiotherapeutic interventions. It may be beneficial with an increased use of interventions in the field of behavioral medicine and closer cooperation with the team psychologist to support the patient's self-management.