

## Infant massage programs for newborn babies: systematic review

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To cite this article: Sónia Vicente & Ângela Pereira (2021) Infant massage programs for newborn babies: systematic review, *Annals of Medicine*, 53:sup1, S145-S146, DOI: [10.1080/07853890.2021.1896600](https://doi.org/10.1080/07853890.2021.1896600)

To link to this article: <https://doi.org/10.1080/07853890.2021.1896600>



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Published online: 28 Sep 2021.



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#### ABSTRACT

**Introduction:** The daily life of Chronic obstructive pulmonary disease (COPD) patients is characterised not only by chronic respiratory symptoms but also by exercise intolerance due to their breathlessness. Proper diagnosis and management of this disease consequently includes evaluation of exercise tolerance [1], frequently associated with a reduced functional exercise performance [2], thereby adversely affecting health status [3]. The purpose of this study is to analyse the impact of COPD on objectively-measured daily physical activity (DPA) through functional capacity and quality of life in these patients.

**Materials and methods:** An observational study was performed with inclusion of seventy one men with moderate COPD (FEV1 54.6±7.1%); age 63.8±3.1 yrs; weight, 71.2±8.3 kg; height, 169.0±8.1 cm constituted the COPD group (COPDG), and 150 healthy subjects, age 64.2±5.8 yrs; weight, 76.2±11.3 kg; height, 169.8±7.5 cm, were included as the healthy group – HG. The physical parameters assessed were strength, aerobic endurance, flexibility and agility/balance, by the Fullerton's functional fitness tests. The health status was evaluated through the Medical Outcomes 36-item Short Form Health Survey (SF-36) questionnaire. The study was approved by the Ethics Committee of the Garcia de Orta Hospital and all participants gave their informed consent.

**Results:** The values of the functional fitness test were significantly different ( $p < .05$ ) between COPDG and HG groups for the following variables all expressed in mean±SD: body mass index, 25.9±3 vs 27.7±4.1 kg.m<sup>2</sup>; 30-second chair stand 14.1±1.7 vs. 18.2±1.9 times; arm curl 15.7±2.8 vs. 18.8±4.9 times; 6-minute walk 498.8±58.3 vs. 589.7±88.6 m; 8-foot up-and-go 4.7±0.8 vs. 5.1±1 sec; chair sit-and-reach 0.81±9.9 vs. -7.1±10.6 cm respectively and no differences were observed for the back scratch test (DPOCG, -11.2±9.7 cm and HG, -12.7±11.6 cm). In health status DPOCG presented a significant decrease ( $p < .05$ ) on perception of all domains of SF-36, except on body pain.

**Discussion and conclusions:** In this study COPD patients have lower levels of functional capacity compared to healthy subjects. However, they were able to perform short tasks with higher speed. This trend was also evident in other study where COPD patients performed short term activities faster than healthy persons [4]. Limitation of activity and impaired quality of life are important outcomes of COPD and there is an association between physical activity and overall health status [5], which was also verified in this study. If functional capacity could be improved, by exercise training integrated in rehabilitation programs, probably we could also improve health status on these patients.

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DOI: 10.1080/07853890.2021.1896586

## Infant massage programs for newborn babies: systematic review

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#### ABSTRACT

**Introduction:** Parenthood is a period of stress and great demand for parents. Taking care of a baby requires parental adjustment and behavioural development in order to satisfy child's needs. Infant massage is an important parental support strategy which enhances parent-child relationship and promotes baby's development [1]. This is a widely and effective technique used in preterm and term infants. In recent years, many studies showed several benefits, such as improved

weight gain; pain reduction; relaxation; increased alertness and learning; decreased stress, depression and anxiety levels; promoted deep sleep and improved immune system [2–4]. However, when evaluating term massage programs, it is noticed that there are no similar methodologies between studies. The purpose of this study is to review massage programs for newborn babies.

**Materials and methods:** This is a systematic review study. A literature search was conducted *via* three databases: PubMed, PEDro and Scielo using the search terms “Massage therapy”; “Infant massage”; “Baby massage”; “Full term”; “term babies”; “neonates”, “newborn” and “Maternal support” or “Mother support”. The inclusion criteria were: Studies published in English, Spanish or Portuguese; RCT studies; Quasi-experimental studies; Studies with massage program; Studies with term babies’ samples; Studies published between 2009 and 2019. The exclusion criteria were studies with term “babies with congenital disease”. A total of 62 papers were found and analysed by both authors. Fourteen met the criteria, 5 RCT’s and 9 quasi experimental studies.

**Results:** Studies described 6 programs of infant massage to newborn babies. Ten studies described mothers applying term massage program, 3 applied by health professionals and 1 divided between health professionals when in hospital and by their mothers when babies were discharged. The most representative direction of massage was from head to feet. Majority of the studies used group strategy for teaching infant massage to mothers. Programs varied from 1–3 days twice a day for 15 mn to once a week between 30–60 mn during 4–8 weeks. Studies were scored by PEDro’s scale and ranged from 2 to 7. Half of the studies obtained score 5.

**Discussion and conclusion:** We can conclude that 6 massage programs are described in literature; the majority is performed by babies’ mothers and there is a wide variety concerning program duration and frequency. Studies outcomes showed effects both on newborn babies and mother–baby relationship. Infant massage programs seem to be an important group teaching strategy for new parents. However, more studies should be done in order to understand if newborn massage works, regardless of the program type.

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DOI: 10.1080/07853890.2021.1896600

## Modulation of ankle antagonist co-activation during the transition from upright standing to gait and to sit in post-stroke subjects

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### ABSTRACT

**Introduction:** Antagonist co-activation represents a neuronal command for the modulation of muscle synergies with postural control purposes [1], probably assuming a key role in the characterisation of tonus dysfunction in post-stroke subjects. This study aims to evaluate the ankle antagonist co-activation during different functional tasks in post-stroke subjects.

**Materials and methods:** A cross-sectional study was performed in eight participants (age = 43.00 ± 10.63 years; median ± interquartile range) who had a subcortical ischaemic stroke in the middle cerebral artery territory for at least 6 months. The study was approved by the local ethics committee and implemented in a research centre. Antagonist co-activation between tibialis anterior (TA) and soleus (SOL) and between TA and gastrocnemius medialis (GM) of the ipsilesional (IPSI) and contralesional (CONTRA) limbs was calculated through electromyographic signals collected during upright standing and postural phases of gait initiation and stand-to-sit, according to the methods proposed by Ribeiro [2].

**Results:** The CONTRA limb presented decreased values in TA/SOL pair during upright standing and increased values in both muscle pairs during gait initiation compared to the IPSI limb (Table 1). No significant differences were found between tasks (Table 1).