Osteoarthritis Index (AUSCAN) and Canadian Occupational Performance Measure (COPM) questionnaires, in addition to some of the tasks of the Bilateral Upper Limb Function Test (TEBIM). Data was presented in mean and standard deviation. To verify the effects of the treatment, the delta of change for each variable was calculated and the percentage change was presented before and after evaluations.
Results: An increase of 4.35% in handgrip strength, 2.88% in pulp-pulp pinch strength and 14.93% in lateral pinch strength were observed. There was a reduction only in tripod pinch strength (10.35%). An improvement of 14.95% was also observed in the execution time of the NHPT and of up to 64.08% in the selected TEBIM activities. The AUSCAN and COPM questionnaires showed a 16.67% reduction in the difficulty of performing ADLs, a 37.5% reduction in stiffness and a 60.98% in pain, in addition to a 7.94% improvement in performance perception and 43.36% in satisfaction performing activities.
Conclusion: The data obtained so far suggest that the use of the shaping method in a treatment protocol focused on strengthening the 1st ID has effects on pain, function, dexterity, and grip and pinch strength in individuals with rizoarthrosis.
Implications: The results of the study may contribute to future physiotherapy studies regarding the intervention protocols for the population with thumb osteoarthritis. The existing clinical trials that focus on exercise-based rehabilitation for hand function in patients with OA at the base of the thumb describe this protocol with poor-quality information. In addition, this study provides preliminary results on the importance of including strengthening of the 1st dorsal interosseous bone in the rehabilitation of patients with rizoarthrosis.
Keywords: Hand joints, Osteoarthritis, Physical therapy

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: We would like to thank The São Paulo Research Foundation (FAPESP) for funding and support.
Ethics committee approval: The study was approved by the Ethics Committee for Research on Human Beings of the Federal University of São Carlos (CAAE: 02932818.8.0000.5504).

https://doi.org/10.1016/j.bjpt.2024.100837

241

FACTORS ASSOCIATED WITH THE PRESENCE OF PERSISTENT SYMPTOMS IN THE 6 MONTHS AFTER HOSPITALIZATION DUE TO COVID-19

Laura Polo[1], Maria Teresa Corso[1], Joice de Abreu Brandolfi[1], Lívia Arcencio do Amaral[1], Angélica Cristiane Ovando[1]
[1] *Postgraduate Program in Rehabilitation Sciences, Universidade Federal de Santa Catarina (UFSC), Florianópolis, Santa Catarina, Brazil*

Background: At the peak of the pandemic, there was a great need for hospitalization of some of the infected according to the World Health Organization (WHO) about 20% of those infected require hospitalization. The hospitalized have impairment in functionality and cognitive aspects. When looking at COVID-19 survivors, there is an increasing number of patients with prolonged symptoms, a condition called Long COVID, defined as the persistence of symptoms for weeks or months after the resolution of the acute illness. The sum of these factors leads to a complex picture of the health of patients. It is extremely important to understand the recovery process of post-COVID individuals at a time when the world is dealing with the consequences left by the pandemic and many people struggle with the difficulty of returning to their daily activities and dealing with the associated financial losses.
Objectives: To identify and evaluate the factors associated with the presence or absence of persistent symptoms in the 6 months after discharge in individuals hospitalized for COVID-19.
Methods: This is a prospective cohort study of individuals who were hospitalized for COVID-19. This research is based on ethical principles, with appreciation by the Ethics Committee and with an Exceptional Free and Informed Consent Form from all participants. To assess the persistence of symptoms in the 6 months after discharge, an evaluation instrument was created based on previous articles. Pearson's chi-square test was used for the univariate association between the presence or absence of symptoms in general and the prevalence of the most frequent symptoms and possible risk factors.
Results: There was no association between the presence of persistent symptoms in general and possible risk factors. Analyzing the association between the presence of the most prevalent symptoms (joint pain, fatigue, dyspnea and myalgia) and possible risk factors (gender, severity, ICU stay, age$\geq$60 years and BMI), some significant associations were found. Joint pain and gender, where more than half of those who reported this symptom were women (57.1%; p=0.03). The age of individuals hospitalized with COVID-19 ($\geq$60 years) was statistically associated with the presence of Myalgia (p =0.003). Obesity was associated with the presence of the symptom fatigue (BMI$\geq$30; p=0.02). No association was found between severity and ICU stay with the analyzed symptoms.
Conclusion: As for risk factors, association analyzes indicated that: joint pain was more significant in females, myalgia was more pronounced in elderly individuals, and fatigue was closely related to obesity.
Implications: Essential information were found about the post-hospitalization recovery process due to COVID-19, demonstrating important particularities of each group, which contributes to offering specific health care to the demands of the region.
Keywords: COVID-19, Hospitalization, Symptoms

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: Not applicable.
Ethics committee approval: The Ethics Committee for Research with Human Beings (CEPSH-UFSC) approved the research under the Certificate of Presentation of Ethical Appreciation (CAAE) 33485120.4.0000.0121

https://doi.org/10.1016/j.bjpt.2024.100838

242

EFFECT OF BODY LATERALIZATION ON PULMONARY AERATION AND REGIONAL VENTILATION DISTRIBUTION IN HEALTHY INDIVIDUALS

Layane Santana Pereira Costa[1], Pedro Vinícius Manso Porfírio[1], Clara Maria Pereira Araújo[1], Cyda Maria Albuquerque Reinaux[1], Caio César Araújo Morais[1], Shirley Lima Campos[1]
[1] *Universidade Federal de Pernambuco (UFPE), Recife, Pernambuco, Brasil*

Background: Therapeutic body positioning has often been used in the hospital to improve oxygenation. Among the different positions, lateralization therapy is suggested to improve local pulmonary function by positioning the region of interest in the chest upwards to reduce the effect of gravity. However, there is still a gap in describing the physiological effects of lateralization between gravity-dependent and gravity-independent lung regions.

Objectives: To analyze the acute effects of body lateralization on aeration and distribution of regional pulmonary ventilation in healthy individuals breathing spontaneously.
Methods: A cohort of 10 healthy volunteers was evaluated in the supine position and a lateral decubitus position with a 30° inclination and the right hemithorax positioned upwards. The change in body position was automatically performed using the Multicare bed (Linet, Prague). Pulmonary ventilation and aeration were evaluated with the electrical impedance tomography (EIT) Enlight 1800 (Timpel, São Paulo). EIT images were segmented into four regions (ROIs: anterior right [AR], left [PL], posterior right [PR], and left [AL]). Data collection was performed at the Hospital das Clínicas of UFPE. The effect of body lateralization on regional pulmonary aeration was evaluated using the One-Way ANOVA test and Tukey's post hoc test. The interaction between regional ventilation distribution and body position was evaluated using the Two-Way ANOVA test. Differences were considered significant when the P value < 0.05.
Results: From supine to lateral decubitus position, pulmonary aeration in the AR and PR regions increased by an average of 197 mL and 130 mL, respectively. Only the AL region showed a systematic reduction in aeration, with an average of -155 mL compared to AR, PR, and PL ($p<0.05$). The distribution of ventilation in ROIs was modified with body position ($p = 0.004$ for interaction between ROIs and position). In the supine position, the AR, AL, PR, and PL regions received, respectively, an average of 23±8%, 20±12%, 23±5% and 32±17% of the inspired tidal volume ($p=0.27$ for ROI comparison). In lateral decubitus position, the distribution of ventilation in the AR, AL, PR, and PL regions was 12±5%, 25±11%, 13±8%, and 48±12%, respectively ($p<0.001$ for ROI comparison).
Conclusion: This study found that body lateralization increased lung aeration in non-gravity-dependent regions (AR and PR) and decreased it in the most gravity-dependent region (AL), suggesting that the change in gravitational axis may have altered the transpulmonary pressure. Lateralization also modulated the regional distribution of ventilation, decreasing it in non-gravity-dependent regions due to the decrease in lung compliance induced by increased aeration and greater diaphragmatic mobility in the dependent region.
Implications: The analysis of the results obtained in this case series has direct and comprehensive implications for the fields of technology and health. This therapy promoted favorable results in aeration and regional distribution of ventilation, thus contributing for fundamentals in theory and practice for assessment methods employed and the reproducibility in further new studies.
Keywords: Patient Positioning, Pulmonary Ventilation, Healthy Volunteers

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: UFPE (Propg), CAPES, CNPq e FACEPE (IBPG - 1976-4.08/22).
Ethics committee approval: Approved by the Ethics Committee on Research of the Brazilian Hospital Services Company (EBSERH) with protocol number: 5,980,254.

https://doi.org/10.1016/j.bjpt.2024.100839

243

PREDICTIVE FACTORS FOR THE LENGTH OF PHYSIOTHERAPY SESSION AT ADULT INTENSIVE CARE UNIT

Leda Tomiko Yamada da Silveira[1], Alexandra Siqueira Colombo[1], Carolina Fu[1]
[1] *Department of Speech Therapy, Physiotherapy and Occupational Therapy, Faculdade de Medicina, Universidade de São Paulo (USP), São Paulo, São Paulo, Brazil*

Background: Human resource allocation at intensive care unit (ICU) is essential for safety and quality in patient care. Although planning and organization are among the most effective instruments for health care management, human resource allocation varies across settings and is usually based on expert opinion, rather than on objective grounds. The identification of predictive factors for the length of physiotherapy session at the ICU could help with planning and management in health care services.
Objectives: To identify predictive factors for the length of physiotherapy session applied to adult ICU patients.
Methods: This was a longitudinal panel study. The primary outcome was the physiotherapy session length, which was collected at one time point, however, the same patient could have more than one session length collected in different observation time points. Data were collected from a 12-bed adult ICU at a teaching, secondary-care public hospital, where common practice relies on the physiotherapists' professional judgement to decide the time allotted and procedures used to manage each patient. All physiotherapy sessions applied to clinical and surgical patients were included. Sessions abruptly discontinued were excluded. A researcher followed one physiotherapist at a time during their entire work shift, measuring the duration of each physiotherapy session using a stopwatch. Physiotherapists signed informed consent form and provided information regarding their age and experience. Patient clinical and demographic data were collected from medical records. The study hypothesis was tested based on the patient and physiotherapist-related factors and the session length using a Multilevel Mixed Model. Sample size was estimated as 308 physiotherapy sessions (20 observations/predictor + 10%). The level of significance was $p=0.05$. Analysis was performed with software Jamovi 1.6.
Results: The study assessed 339 physiotherapy sessions during 79 periods of observation, involving 181 patients and 19 physiotherapists. Average (SD) session length was 31.5 (14.5) minutes. The median number of patients assisted per physiotherapist per 6-hour shift was 5 (IQR: 4 to 5). Physiotherapists' median age was 35 (26 to 39) years-old and ICU experience was 13.0 (0.4 to 16.0) years. Patients were mostly elder, post-surgery (38.7%), with current ICU length of stay of 5 (2 to 9) days. The Multilevel Mixed Model adjusted for outliers showed that current ICU length of stay [Estimate = 0.154 (0.027 to 0.281)], contraindication for out-of-bed mobilization [Estimate = -7.835 (-10.879 to -4.791)] and current use of sedatives, invasive mechanical ventilation, or vasoactive drugs [Estimate = 3.178 (0.223 to 6.133)] were associated with the length of physiotherapy session.
Conclusion: This was a single-center study; therefore, generalization should be made with caution. In our sample, factors related to the physiotherapist, such as age or experience, were not associated with session length. Contraindication for out-of-bed mobilization decreased session length while ICU length of stay and current use of sedatives, invasive mechanical ventilation or vasoactive drugs increased session length.
Implications: The identification of predictive factors for session length may help to estimate the number of patients that one physiotherapist is able to assist during the work shift, thus improving human resource allocation.
Keywords: Intensive care unit, Human resource, Workload

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: We thank Dr. Bruno Leonel Ferreyro, Dr. Altay Alves Lino de Souza, Dr. Suzana Tanni and the MECOR team for their contribution in this study.
Ethics committee approval: The study was approved by the Hospital Universitario Ethics Committee Board (approval number 2.134.696).

https://doi.org/10.1016/j.bjpt.2024.100840