



Reliability and validity of the QASCI questionnaire to assess caregiving burden in COPD

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To cite this article: Nádia Hipólito, Adriana Ruivo, Sara Martins, Sofia Flora, Alda Marques, Dina Brooks, Cândida G. Silva, Filipa Januário & Joana Cruz (2021) Reliability and validity of the QASCI questionnaire to assess caregiving burden in COPD, Annals of Medicine, 53:sup1, S85-S86, DOI: [10.1080/07853890.2021.1897441](https://doi.org/10.1080/07853890.2021.1897441)

To link to this article: <https://doi.org/10.1080/07853890.2021.1897441>



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Published online: 28 Sep 2021.



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(1) is ARCADE effective in illustrating the patients' performance in unsupervised exercises? and (2) are proxemic interactions useful in rehabilitation environments?

Materials and methods: We conducted an evaluation with 9 physiotherapists, using both quantitative and qualitative methods to understand the system's potential to be used in clinical settings. The study had two stages. First, we demonstrated ARCADE to participants and used a think-aloud protocol to elicit feedback about its usefulness in clinical settings. We then conducted a thematic analysis to all qualitative data. In the second stage, we simulated a situation where patients perform an exercise while unsupervised. We compared therapists' performance in scoring the quality of movement using ARCADE's visualisations against real-time video performance of patients. ARCADE's visualisations used a human body representation with 20 joints and included measures such as task completion rate, joint angles, body segment paths, number of compensatory movements, and common compensations. The visualisations illustrated patients' unsupervised performance based on the video recordings.

Results: Therapists responded positively to the visual measures displayed by ARCADE, and how information changed based on proximity. Interestingly, they were able to combine multiple measures to assess patients' performance and uncover hidden information that is not visible by the human eye (e.g. joint angles and compensation movements). Results from stage 2 showed that post-assessment of patients' performance using ARCADE was similar to physiotherapists' real-time observations in terms of movement speed, amplitude, precision and overall movement quality.

Discussion and conclusions: We present ARCADE, a novel proximity-aware system that displays meaningful and timely information to patients and physiotherapists. ARCADE demonstrated potential to be used as a rehabilitation tool and enable professionals to assess the performance of multiple patients, simultaneously, without individual performance loss.

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Acknowledgements

This research was supported by Fundação para a Ciência e a Tecnologia through grants UID/CEC/50021/2019, ARCADE PTDC/CCI-COM/30274/2017, and STREACKER UTAP-EXPL/CA/0065/2017.

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DOI: 10.1080/07853890.2021.1897439

Reliability and validity of the QASCI questionnaire to assess caregiving burden in COPD

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ABSTRACT

Introduction: Chronic obstructive pulmonary disease (COPD) often leads to an increased dependence on the informal carer, which can result in higher levels of distress, anxiety or depression associated with the burden of caregiving and, consequently, reduced quality of life [1]. Several instruments have been used to assess carer burden in COPD; however, their measurement properties have been poorly assessed in this population [2]. The *Questionário de Avaliação de Sobrecarga do Cuidador Informal* (QASCI) is a Portuguese questionnaire, originally created for carers of patients with stroke [3] and later validated in a sample with various chronic diseases, including respiratory diseases [4]. However, its

reliability and validity in informal carers of patients with COPD have yet to be established. Therefore, this study aimed to assess the reliability and validity of the QASCI questionnaire for informal carers of patients with COPD.

Materials and methods: The Portuguese questionnaire QASCI evaluates the distress associated with burden of caregiving (scores range from 0 to 100, with higher scores indicating higher levels of burden). It has 32 items divided in 7 subscales (emotional burden; personal life implications; financial burden; reactions to demands; mechanism of efficacy and control; familiar support; and satisfaction with the role). Each item is scored with a 5-point Likert scale. Reliability included internal consistency assessment using the Cronbach's alpha. Construct validity was assessed using the following questionnaires: Zarit Burden Interview (ZBI) for concurrent validity; the Hospital Anxiety and Depression Scale (HADS) (anxiety and depression) and WHOQOL-Bref (quality of life) for convergent validity. Pearson's (r) or Spearman's (ρ) correlation coefficients were used according to the distribution of each variable. QASCI was expected to present a stronger (positive) correlation with ZBI than with HADS ($r \geq 0.5$) and a negative correlation with WHOQOL-Bref ($r \leq -0.4$) [3,4].

Results: Forty-one carers (62.4 ± 10.1 years, 90.2% female; patients' $FEV_1 = 43.7 \pm 19.7\%$ pred) completed the questionnaires. Cronbach's alpha of the full QASCI scale was 0.767 and the subscales presented values between .633 and .929. QASCI and ZBI had a very strong positive correlation ($r = 0.914$; $p = .01$). QASCI had a strong positive correlation with HADS anxiety ($r = 0.608$; $p = .01$) and depression ($\rho = 0.617$; $p = .01$) subscales and moderate to strong negative correlations with all the WHOQOL-Bref subscales (-0.418 to 0.723 , $p = .01$).

Discussion and conclusions: QASCI presented good internal consistency and construct validity results. QASCI seems to be a promising measure to evaluate distress levels associated with burden of caregiving in informal carers of patients with COPD.

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Funding

Este trabalho foi financiado pelo FEDER - Fundo Europeu de Desenvolvimento Regional através do COMPETE 2020 – Programa Operacional Competitividade e Internacionalização (POCI) e por fundos nacionais através da FCT - Fundação para a Ciência e a Tecnologia, no âmbito do projeto “On Time to Rethink ACTivity Knowledge: a personalized mHealth coaching platform to tackle physical inactivity in COPD (OnTRACK), ref. POCI-01-0145-FEDER-028446”.

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DOI: 10.1080/07853890.2021.1897441

Anatomical factors in medication-related osteonecrosis of the jaws

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ABSTRACT

Introduction: Medication-related osteonecrosis of the jaws (MRONJ) is a serious adverse event of antiresorptive and antiangiogenic drugs that affects bone and soft tissue of the maxillofacial region [1]. Clinical features and risk factors of MRONJ have been described in several publications, however few studies address the anatomical factors involved [2,3]. This study aims to: (a) describe in detail the anatomical location of MRONJ lesions; (b) identify the most susceptible areas and association with other factors.

Materials and methods: A retrospective study was conducted including all patients with MRONJ diagnosis in an Oral Surgery Clinic between 2004 and 2018. The data was collected from the patient clinical records. Lesion extension was