

Tele-spirometry in primary health care: a randomized clinical trial in southern Brazil (research protocol)

Cynthia Goulart Molina-Bastos¹; Sabrina Dalbosco Gadenz²; Maria Angela Fontoura Moreira³;
Erno Harzheim⁴; Marcelo Rodrigues Gonçalves⁵

INTRODUCTION: Chronic respiratory diseases (CRD) are important causes of morbidity and mortality in Brazil and represent from 25 to 30% of hospitalizations for ambulatory care sensitive conditions. Asthma and Chronic Obstructive Pulmonary Disease (COPD) have an expressive impact on the use of direct and indirect resources in health. Spirometry is considered the gold standard test for diagnosis and management of CRD. The availability of spirometry in primary health care (PHC) is cost-effective, especially when associated with continuing professional development.

The National Telehealth Program is a partnership between the Ministry of Health and Universities. It aims to integrate the Family Health Strategy (FHS) teams of the various regions of the country with reference universities. Quality of services provided in PHC is thus improved with reduction of health costs and patients referral to other cities. Rio Grande do Sul State Center was entitled "Telematics and Telemedicine Project in Support of Primary Health Care in Brazil: Rio Grande do Sul Center (TelessaúdeRS)". It is attached to the Postgraduate Epidemiology Program, at the Federal University of Rio Grande do Sul. Main actions of the Center, is the first remote diagnostics service for chronic respiratory diseases in Brazil, which since September 2013 has performed

METHODS: We conducted a cluster randomised controlled trial. The FHS teams of three cities of Rio Grande do Sul are randomized into two groups (intervention and control). To be eligible teams have to be in the National Register of Health Facilities as FHS. Patients are included according to the following criteria: = 12 years old, suspected clinical diagnosis of asthma and / or COPD and respiratory symptoms. Asthmatic patients are considered symptomatic if Asthma Control Test (ACT) score does not exceed nineteen and patients with COPD who present score =1 in Modified Medical Research Council (mMRC) questionnaire. Institutionalized individuals, patients with difficulty in answering the questionnaire, spirometry with restrictive pattern or withdraw to participate in the study, are excluded.

Physicians received training and support material. Patients included in the study do a spirometry at baseline and another after 22 weeks. Exam scheduling and survey questionnaire is done by telephone.

The intervention consists of teleconsulting by a TelessaúdeRS physician with specific training in CRD. Feedback is sent about the exam indication. Recommendations of management, based on clinical evidence, are given. Patients receive follow-up with nurses in order to enhance adherence and improve management of crisis, through telephone calls, approximately 45 and 90 days after the test.

RESULTS: The primary outcome measure of the study is the control of respiratory symptoms by ACT and mMRC

1. E-mail: cynthia.g.molina@hotmail.com. Graduate in Medicine. Federal University of Rio Grande do Sul, UFRGS, Brazil; 2. Doctorate student in Epidemiology at the Federal University of Rio Grande do Sul; 3. Doctor in Respiratory Sciences by the Federal University of Rio Grande do Sul, UFRGS, Brazil; 4. Postdoc by the Federal University of Rio Grande do Sul, UFRGS, Brazil; 5. Professor at the Federal University of Rio Grande do Sul and vice-coordinator of TelessaúdeRS / UFRGS.

scores and improvement of spirometric values. Secondary outcomes are reduction of referrals to specialized ambulatory care and emergency rooms, change in treatment of CRD (inhaled corticosteroids, short and long-acting broncho-dilator among others) and cost-effectiveness measures.

CONCLUSIONS: This study will evaluate the effect of tele-consulting in controlling asthma and COPD in PHC, the proportion of referrals avoided by qualifying medical assistance and cost-effectiveness of this work process. Consequently, may contribute to the control of CRD, especially in southern Brazil and be a telecare model for other places. ■

The study was approved by the Research Ethics Committee (CEP / HCPA and ZIP / SMSPOa) under CAAE number: 22719013.7.3001.5338