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ORIGINAL ARTICLE/TELE-EXPERTISE

## Acceptance of telemedicine among respiratory healthcare professionals

*Acceptation de la télémédecine chez les professionnels de la santé respiratoire*

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Telemedicine;  
Technology  
acceptance model  
(TAM);  
Perceived attitudes;  
Intention to use;  
Healthcare  
professionals

### Summary

**Introduction.** – The aim of our study was to assess telemedicine acceptance by respiratory healthcare professionals using the technology acceptance model questionnaire, which analyses perceived ease of use, perceived usefulness and intention to use a technology.

**Methods.** – We invited all members of the Spanish Respiratory Society to answer a survey based on the technology acceptance model through their web page. The survey was anonymous and optional.

**Results.** – A total of 349 questionnaires were received. Mean age was 46 years old and 59% did not have previous experience with telemedicine programs. Resistance factors to the use of telemedicine were: “I would find it easy to get TLM to do what I want it to do” (41.2%), “I have the intention to use TLM regularly with my patients” (33.2%) and “Using TLM would make it easier to do my job” (31.3%).

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*Discussion.* – According to our results, global satisfaction of health professionals with TLM programs is high and influenced by age and previous experience. We detected three main “resistance factors” related to technical issues of the system and the technical capabilities of healthcare professionals (items PEOU-2, IU-3 and PU-5).

*Conclusions.* – Healthcare professionals acceptance of telemedicine programs constitutes the main factor for its diffusion. Intention to use is highly related to the need of specific training programs.

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## MOTS CLÉS

Télémédecine ;  
Modèle d’acceptation  
de la technologie  
(TAM) ;  
Attitudes perçues ;  
Intention  
d’utilisation ;  
Professionnels de la  
santé

## Résumé

*Introduction.* – L’objectif de notre étude était d’évaluer l’acceptation de la télémédecine par les professionnels de la santé respiratoire en utilisant le questionnaire du modèle d’acceptation de la technologie, qui analyse la facilité d’utilisation perçue, l’utilité perçue et l’intention d’utiliser une technologie.

*Matériels et méthodes.* – Nous avons invité tous les membres de la Société respiratoire espagnole à répondre à un sondage basé sur le modèle d’acceptation technologique à travers leur page Web. L’enquête était anonyme et facultative.

*Résultats.* – Au total, 349 questionnaires ont été reçus. L’âge moyen était de 46 ans et 59 % n’avaient pas d’expérience préalable avec les programmes de télémédecine. Les facteurs de résistance à l’utilisation de la télémédecine étaient les suivants : « Je trouverais cela facile de faire en sorte que la TLM fasse ce que je veux » (41,2 %), « j’ai l’intention d’utiliser la TLM régulièrement avec mes patients » (33,2 %) et « L’utilisation de la TLM faciliterait mon travail » (31,3 %).

*Discussion.* – Selon nos résultats, la satisfaction globale des professionnels de la santé avec les programmes de TLM est élevée et influencée par l’âge et l’expérience antérieure. Nous avons détecté trois principaux « facteurs de résistance » liés aux problèmes techniques du système et aux capacités techniques des professionnels de la santé (articles PEOU-2, IU-3 et PU-5).

*Conclusions.* – L’acceptation par les professionnels de la santé des programmes de télémédecine constitue le facteur principal de sa diffusion. L’intention d’utiliser est fortement liée au besoin de programmes de formation spécifiques.

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## Introduction

Telemedicine (TLM) has been conceived as a group of tools based on innovation and communication technologies (ICT), which allows a remote “physician’s act” [1]. The use of TLM programs in respiratory diseases has accomplished a reduction of exacerbations which otherwise would require medical attention in a hospital, as well as a quality of life improvement and reduction of costs [2].

Despite the promising applications of TLM in respiratory diseases, its implementation has been slow and troublesome. Some of the factors related to its lack of generalization have been studied in previous studies [3,4], such as recognized external variables as previous personals’ skills with technologies, personal resistance to change professionals habits, and legal or monetary issues involved in implementing telemedicine programs, among others.

Healthcare professionals’ acceptance is an important factor for successful TLM program implementation [5], but acceptance by respiratory healthcare professionals has not been thoroughly studied, and moreover, we are not aware of the resistance factors expressed in this group since it has

been only reviewed as a secondary objective in previous works.

Different tools are available nowadays capable of evaluating technology acceptance by the users. The technology acceptance model (TAM) has been the most generally used in health care related technologies [6], and is validated as a questionnaire able to explain the reasons why a determined technology is used.

Based on the lack of information of TLM acceptance by health care professionals, specially concerning the respiratory diseases scenario, we carried out the present study with the main objective of evaluating the acceptance of programs based on TLM, applying the TAM questionnaire to the Spanish Respiratory Society (SEPAR) members.

## Materials and methods

### Study subjects

An observational study was performed during three months through the SEPAR web page (<http://www.separ.es>),

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