Adherence to online selfmanagement in patients with COPD or asthma: the role of disease severity.

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Introduction

Self-management plays a key role in integrated care strategies for chronic diseases [1,2].

MyCOPDonline and myasthmaonline are online self-management programs for patients with COPD / asthma. These programs run on the Curavista Health platform. The program consists of 3 elements:
1. Health status / progression;
2. Self-management / actions;
3. eConsult.
The program can be used on smartphone, tablet and laptop/personal computer (fig. 1)

In chronic conditions like asthma and COPD a positive effect can only be achieved if patients participate long-term. Therefore, the program consists of an expert system that generates all diaries / forms automatically, gives individualized feedback and reminds patients to fill in the diary / forms using e-mails.
Two hospitals in the Netherlands (Havenziekenhuis / Erasmus MC Rotterdam, Sint Franciscus Gasthuis Rotterdam) incorporated the programs into their daily routine for outpatients.
We hypothesize that patients with more severe or more advanced disease use the program more frequently.

Aim of the study

The aim of the study was to assess the relation between disease severity and the adherence to the program by patients with asthma or COPD.

Methods

We retrospectively analyzed the use of the program by patients in relation to impairment of health status as reflected by ACQ (mild: 0-0.75; moderate: 0.75-1.5; severe >1.5) or CCQ (mild: 0-1; moderate 1-2, severe >2). All patients registered in the program (01-01-2015) were analyzed by Kolmogorov-Smirnov test.

Figure 1. The Selfmanagement program can be used on different platforms.

Baseline characteristics:

Significantly more women participated. However, mean ACQ and CCQ at baseline did not differ by gender.

ASTHMA	Total	Male	Female	Anonymus
n	155	30	121	4
Age	45.9	49.6	44.4	
Sd	18.9	41.0	17.2	
ACQ	1.88	1.97	1.85	2.17
Sd	1.13	1.33	1.08	
COPD	Total	Male	Female	Anonymus
n	158	68	85	5
Age	61.2	64.8	58.3	
Sd	12.5	13.0	11.3	
CCQ	2.12	1.94	2.27	2.12
Sd	1.11	1.12	1.04	

Results

Adherence was not influenced by age or sex. There seemed no relation between absolute values for ACQ or CCQ at start with respect to adherence to the program. After categorizing the ACQ/CCQ groups according to health status, we showed that an impaired health status was related to a more frequent startup and adherence to the online program (table 1, p < 0.05, fig 2).

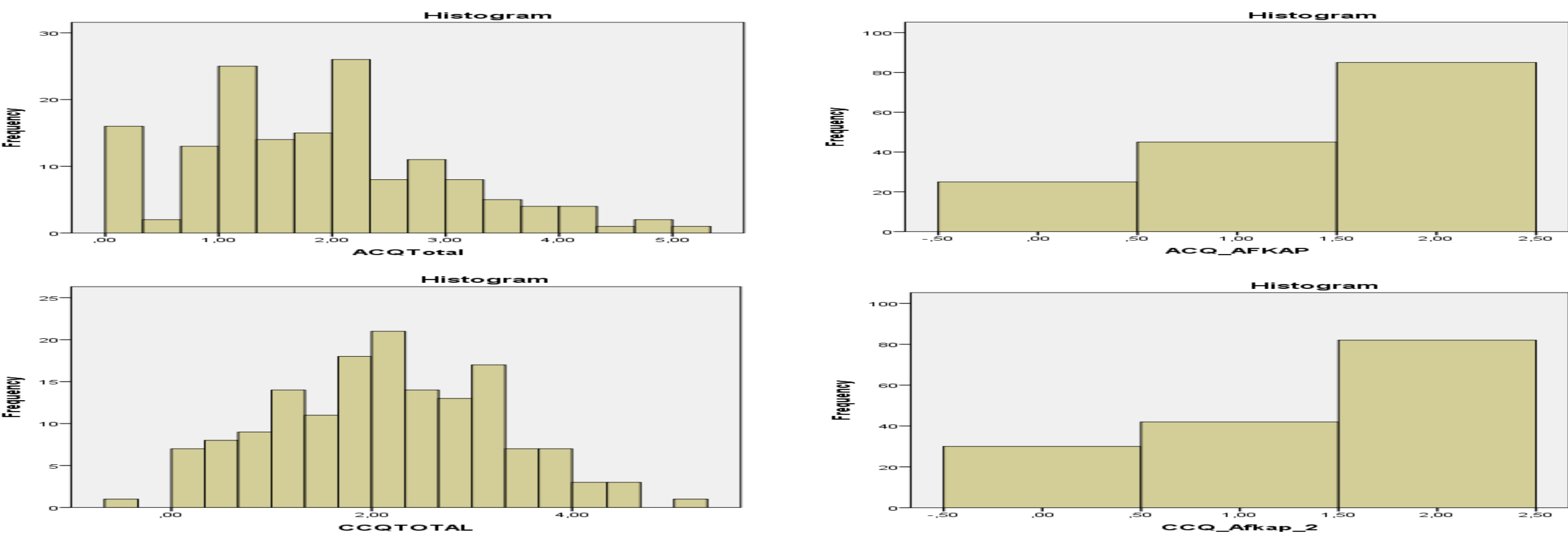| [table1] Distribution of impairment of health status for asthma/COPD in usage of online selfmanagement						
%	At start	At start	At start	Persistent users	Persistent users	Persistent users
Health impairment	Mild	Moderate	Severe	Mild	Moderate	Severe
Asthma	16.1	29.0	54.9	16.7	23.7	59.7
COPD	19.5	27.3	53.2	25.8	29.8	54.4

Figure 2. Adherence for astma (up) and COPD (down) for ACQ/CCQ (left) and Health status (right).

Discussion

Earlier studies revealed that the use of self management programs might be influenced by sex, age and involvement of the health care provider [3].
The data of this study suggest that adherence to online selfmanagement programs might be related to disease severity. However, almost 50% of the patients who persisted in participation did not have an severe impairment in Health status.

Conclusions

Self management programs are especially appreciated by patients with more advanced disease. However self management should not be restricted to patients with severe impairment only, as almost 50% of the patients who started and persisted in program use had mild/moderate disease severity. This might imply that the urge for mastery and empowerment is not solely dependent on health status per se.

1. Guided self management of asthma – how to do it: BMJ 1999;319:759
2. Trappenburg – Self management and early detection of excerbations in patients with COPD – Dissertation 2011
3. Kruis, van Schayck, in 't Veen, van der Molen, Chavannes. Lancet Respir 2013

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