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Exploring to what extent an educational intervention regarding COPD primary care patients is feasible to impact life quality: a brief report from Greece

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ABSTRACT

Objective of this study was to explore how feasible are educational initiatives in primary care that aim to impact quality of life among patients with COPD.

A cluster of patients used to deliver care from general practitioners (GPs) with an intensive course on COPD in the past. The control group attended GPs without any specific previous COPD training.

By using CRQ-SAS and QOL-RIQ questionnaires, no quality of life improvement was registered in the case group. No significant variation occurred in both groups in regards to FEV1 % during the six months of observation.

Keywords: COPD, quality of life, Greek smokers

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INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) constitutes a major primary and secondary care problem. The average prevalence of the disease among Greek smokers or ex-smokers above the age of 35 years was estimated at 8.4%.[1] In USA, a previous study revealed critical knowledge gaps of the general practitioners some years ago when caring patients with mild to moderate COPD.[2] Furthermore, continuing medical education initiatives on pulmonary care through community-based educationally influential physicians and targeted at primary care physicians has reported to be effective.[3] In Greece, the knowledge of general practitioners in regards to management of chronic respiratory diseases was found years ago not satisfactory and their performance in smoking Cessation of patient with COPD required improvement.[4] A recently published exploratory study reported on the need of joint educational programs in Greece by promoting multidisciplinary collaboration and enabling primary care physicians to better focus on COPD.[5] In the framework of this study, an educational intervention suitable for COPD patients in primary care has been designed with the aim to explore to what extent a brief educational initiative among primary care physicians towards quality of life preservation among COPD patients, was feasible.

METHODS

Setting and design

A before and after intervention with a control group feasibility study was designed. Five rural and remote health centers in Crete, Greece (pool of potential cases) and one health center in Ikaria (pool of potential controls) were invited to participate in this study. From the health centers in Crete, two responded to the study requests in all stages of this study, since practical limitations related to patient recruitment, staff availability and lack of financial support led to the withdrawal of three units. A control group was formed at the health center in Ikaria (a distant island of Greece) which its staff had expressed its interest for cooperation.

Sample and ethics

The case and control group were selected from paper records available in the participating health centers. To extract clinical information, patients' health booklets were used. Initially, 66 patients were included in a list with a prior diagnosis of COPD. From them, 16 missed their first visit and 30 were rejected because their spirometry readings left doubts for a COPD diagnosis. From the remaining patients a case group was formed with 15 patients from the health centers in Crete. From them, 6 patients continued their follow up meetings for the next six months. They were receiving care from general practitioners who had an intensive two day COPD educational course previously. The control group was formed with 5 patients from the health center of Ikaria, who were receiving services from general practitioners without any specific previous COPD focused training.

All participants were men. Their mean age was 69.4 years (Standard Deviation, SD: 6.7) in the control group and 75.6 years (SD: 1.5) in the case group and with a mean Body Mass Index, BMI: 26.8 (SD:5.1) and 28.5 (SD:3.0) respectively. Data during six months of observation were obtained. Ethics approval was obtained from the University General Hospital of Heraklion (No Protocol 81/20.07.2005).

Data analysis

Differences within the resulted median scores and ranges (at baseline and after 6 months) were recorded. Median score differences were assessed by Wilcoxon test (non-parametric test for matched pairs) in both groups. A p value of less than 0.05 was considered as statistically significant.

RESULTS

Although feasibility studies are not coming, usually, across effectiveness, study data in terms of quality of life measurements show that no improvement was registered in the case group, and specifically a poorer response rating in specific domains was reported within CRQ-SAS and QOL-RIQ in the control group.

Table 1. Differences in both groups response rating within CRQ- SAS and QOL-RIQ questionnaires at the starting point and after 6 months

Questionnaires	Control group			Case group		
	Baseline	After 6 months	P value	Baseline	After 6 months	P value
CRQ-SAS total	3.05 (2.25 -3.74)	3.00 (1.75 – 3.42)	**0.043**	5.15 (3.75 – 7.00)	5.45 (3.75 – 6.40)	0.686
CRQ-SAS dyspnea	2.4 (1.80 -4.25)	2.60 (1.8 – 4.25)	0.285	5.30 (4.00 -6.00)	6.20 (5.20 – 6.60)	0.066
CRQ-SAS fatigue	3.00 (2.00 – 3.75)	3.00 (1.5 – 3.25)	0.059	5.25 (3.50 – 7.00)	5.25 (2.25 – 6.75)	0.343
CRQ-SAS emotions	3.43 (2.29 – 3.86)	2.86 (1.86 – 3.57)	**0.043**	5.29 (2.86 – 7.00)	5.57 (3.57 – 6.00)	0.500

Table 1. Differences in both groups response rating within CRQ- SAS and QOL-RIQ questionnaires at the starting point and after 6 months (continued)

Questionnaires	Control group			Case group		
	Baseline	After 6 months	P value	Baseline	After 6 months	P value
CRQ-SAS mastery	3.25 (2.00 – 3.50)	3.25 (1.50 -3.50)	0.257	6.50 (3.75 – 7.00)	6.00 (3.75 -7.00)	0.197
CRQ-SAS emotions	3.43 (2.29 – 3.86)	2.86 (1.86 – 3.57)	**0.043**	5.29 (2.86 – 7.00)	5.57 (3.57 – 6.00)	0.500
QOL total	4.89 (3.70 – 5.51)	5.06 (3.98 – 5.77)	**0.043**	1.87 (1.26 – 2.65)	2.35 (1.47 – 4.20)	0.225
QOL breathing	4.44 (3.67 – 5.00)	4.44 (4.11 -5.00)	0.102	1.56 (1.00 – 3.50)	2.56 (1.11 – 3.89)	0.345
QOL physical	5.00 (3.89 – 5.56)	5.33 (4.44 – 5.67)	**0.042**	1.44 (1,00 – 2.89)	2.00 (1.56 – 4.56)	0.225
QOL emotional	4.22 (2.89 – 5.22)	4.56 (3.00 – 5.44)	**0.042**	1.67 (1.00 -3.44)	2.89 (1.44 – 3.89)	0.138
QOL general	4.75 (3.00 – 5.25)	5.00 (3.25 – 5.50)	**0.025**	2.00 (1.00 – 5.25)	5.25 (1.00 – 5.50)	0.066
QOL triggering	3.86 (3.00 – 5.00)	4.00 (3.14 – 6.00)	0.157	1.71 (1.00 – 3.14)	1.86 (1.00 – 5.00)	0.273
QOL daily	5.80 (4.10 –6.60)	5.90 (5.40 – 6.60)	0.066	1.90 (1.22 -4.00)	1.89 (1.56 – 3.90)	0.893
QOL social	6.40 (2.40 – 6.40)	6.40 (2.60 – 6.40)	0.180	2.43 (1.00 – 3.57)	1.57 (1.00 – 3.57)	0.465
Wilcoxon paired test-Results as median (min – max)						

Table 1 shows trends and statistically significant differences in both groups at the starting point and after 6 months. Specifically, regarding CRQ-SAS, control group showed a statistically significant improvement (p = 0.043) at the total score between baseline (3.05, range: 2.25-3.74) and six months later (3.00, range: 1.75-3.42). The greater difference was detected at the domain of emotions (p = 0.043). Furthermore, control group found to have significant (p = 0.043) improvement in the QOL-RIQ total score from baseline (4.89, range: 3.70-5.51) and after six months (5.06, range: 3.98-5.77) with the greater improvement at the emotional, physical and general domains. No statistically significant differences found in the case group for both questionnaires used.

Table 2. Differences in both groups in relation to changes in FEV1% at the baseline and after six months

	Control group 5 patients at Stage 3			Case group 5 patients at stage 2 and 1 case at stage 3		
	Baseline	After 6 months	P value	Baseline	After 6 months	P value
FEV 1 %	34.71 (34.10 – 48.00)	35.74 (34.09– 48.00)	0.414	64.29 (42.10– 66.00)	65.96 (50.80 – 92.95)	0.225

Table 2 shows that no significant variations occurred in both groups in regards to FEV1 % during the six months of observation.

DISCUSSION

Although there is much discussion about the use Quality of Life (QoL) measurements in intervention studies implemented in different settings, those interventions are used in order to quantify disease burden.[11] Moreover, they have become an important monitoring measure in COPD research and treatment.[11] Health status, sometimes referred to as health-related quality of life, by administering standardized questionnaires, has expanded our understanding on chronic respiratory diseases such as COPD.[12] A great number of QoL instruments is available,[11] it has been recently shown, that one of the disease specific instrument is the CRQ,[8] among others like COPD Assessment Test (CAT),[13] Saint George Respiratory Questionnaire (SGRQ),[14] and Living with COPD questionnaire (LCOPD).[15] In our study and by using CRQ-SAS and QOL-RIQ, it is interesting that we have not detected differences in the case group. The domain reflecting patients' emotional status found affected in both metric tools used within control group. It is already known the relationship between the exacerbation rate, quality of life and FEV1.[12,16,17] Literature suggests that SGRQ deteriorated faster in patients with GOLD stages III & IV compared to those with GOLD stage II.[12,16,17]

Moreover, large scale COPD trials suggest that recurrent exacerbations have a cumulative effect on health status similar to that of FEV1.[18,19] Although we cannot extrapolate from our data the rate of exacerbations in our clusters of patients, we have observed that the control group, with more severe disease, had significant deterioration in different aspects of both questionnaires used in our study. Indeed, TORCH study has suggested that COPD patients with severe and very severe airway obstruction at baseline showed significant deterioration in their health status over 3 years. [19]

This feasibility study does not lack limitations. From20 finally included patients in total that had an established COPD diagnosis in the participating primary care practices we finally succeeded to obtain data for only eleven cases. Secondly, but not less importantly, the disease stage was different between control (much lower FEV1) and case group. One reason for this may be related to the fact that people with more severe disease may be more prone to accept an invitation for study participation. There was no sufficient support to expand the pool for data collection by recruiting more patients from different settings and by offering to the participating doctors non-profit motivations to overcome their inertia to continue.

CONCLUSION

The primary care setting seems to be promising in testing intensive educational interventions to improve COPD management despite practical matters that can subsequently affect its suitability in real research conditions. However closer collaboration between researchers and physicians who deal with COPD patients may allow focus on both design and implementation phases for future initiatives. Financial and technical support of a primary care study seems to be not enough sufficient if the busy general practitioners, usually working in difficult or demanding conditions are not motivated to maximize their effort to meet the study needs. This feasibility report shows that there is always a risk to focus on a specific point and lose the whole picture. The findings of this study may guide future research and educational initiatives that should target to measurable outcomes including quantification of quality of life in patients with COPD that managed in primary care.

AUTHOR'S CONTRIBUTIONS

All authors read and approved the final manuscript. CL conceived and participated in the design the study. TN provided scientific and clinical input. EKS, KMA, NK prepared the draft. KK performed the statistical analysis of the collected data.

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