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Questionnaire on quality of life related to Chronic Obstrutctive Pulmonary Disease (COPD): literature review

Questionários de qualidade de vida relacionada à saúde na Doença Pulmonar Obstrutiva Crônica (DPOC): revisão de literatura

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Resumo | INTRODUÇÃO: Pacientes com DPOC geralmente experimentam uma diminuição na qualidade de vida relacionada à saúde (QVRS) a partir da percepção própria de que se sentem limitados em algum aspecto de suas vidas. **OBJETIVO:** Analisar as produções científicas que abordam o uso de questionários de qualidade de vida para acompanhar evolução de doença em portadores de Doenças Pulmonares Obstrutivas Crônicas. **MÉTODOS E MATERIAIS:** Revisão Não Sistemática da literatura incluindo artigos nos idiomas inglês, português e espanhol, a partir das bases de dados Medline, SciELO e Lilacs, no período de 1998 a 2017, além de livros técnicos que versam sobre o assunto. Foram utilizados os termos: "chronic obstructive pulmonary disease", "quality of life", "specific health-related quality of life questionnaires". **RESULTADOS/SÍNTESE DOS DADOS:** Os 39 artigos encontrados foram organizados em duas seções, a saber: estudos de validação de questionários de qualidade de vida (n=22) e estudos de comparação entre instrumentos genéricos e específicos para avaliação de qualidade de vida (n=17). **CONCLUSÕES:** A avaliação da qualidade de vida deve ser incorporada ao seguimento clínico, uma vez que a doença crônica repercute nas diversas dimensões da vida dos pacientes. Os questionários específicos de qualidade de vida dão uma melhor dimensão das condições de saúde no portador de DPOC no que se refere a sua relação com a doença.

PALAVRAS-CHAVE: Doença Pulmonar Obstrutiva Crônica. Qualidade de vida. Questionários. Revisão.

Abstract | INTRODUCTION: Patients with Chronic Obstructive Pulmonary Disease (COPD) usually experience a decrease in quality of life related to health (QLRH) from their perception of their own limitations in some aspects of their lives. **OBJECTIVE:** To analyze the scientific production which tackle the use of questionnaires on quality of life in order to follow the disease evolution in subjects with COPD. **METHODS AND MATERIALS:** Non-Systematic Review of the literature including articles in English, Portuguese and Spanish, using Medline, SciELO and Lilacs data bases, from 1998 to 2017, as well as technical books on the theme. The terms used were "chronic obstructive pulmonary disease", "quality of life", "specific health-related quality of life questionnaires". **RESULTS/DATA SYNTHESIS:** The 39 articles found were organized into two sections as follows: studies on validation of quality of life questionnaires (n=22) and studies of comparison between generic and specific instruments for quality of life evaluation (n=17). **CONCLUSIONS:** The evaluation of quality of life for patients with COPD must be incorporated to the clinical segment, as the chronic disease influences several dimensions of patients' lives. The specific questionnaires on quality of life give a better dimension of the health conditions of patients with COPD regarding their relationship with the disease.

KEY-WORDS: Chronic Obstructive Pulmonary Disease. Quality of life. Questionnaires. Review.

Introduction

Chronic Obstructive Pulmonary Disease (COPD), in the 2017 version of Global Initiative for Obstructive Lung Disease - GOLD is conceptualized as a common, preventable and treatable disease, characterized by persistent respiratory symptoms and airflow limitations, which derive from abnormalities in the airways and alveoli caused by significant exposure to harmful particles or gases[1]. According to World Health Organization (WHO) data, COPD is one of the most prevalent diseases in the world and is supposed to be the third most common cause of death by 2030. In Brazil, the hospitalizations derived from this disease represent a total number of 170,000 hospital admissions (DATASUS, 2008). The average number of deaths caused by COPD was around 33,100 per year between 2000 and 2005 (DATASUS, 2008). COPD is responsible for an enormous financial cost, promoting expenses around US$ 1,522.00 per patient a year[2].

Patients with COPD usually experience a decrease in quality of life related to health (QLRH) due to their own perception of limitations on some aspects of their lives[3]. Common COPD symptoms such as cough, production of expectoration and, mainly, dyspnea or intolerance to effort, as well as, acute exacerbation of the disease and comorbidy that are frequently associated to patients with COPD, contribute to the reduction of QLRH perception and to the general seriousness of the disease[4].

The subjective and multidimensional concept of Quality of Life (QL) was consolidated among experts in the 1990s and, since then, the proposal of several studies has been to identify measure and evaluate the domains affected by the disease with qualitative and quantitative lineations[5]. However, while the term "Quality of Life" is associated in the literature to a general labelling referring to a physical performance or psychosocial variables quantification (which, in turn, refers to the wide concept of "Health" proposed by WHO – "a state of complete physical, mental and social well-being and not only the absence of affections or diseases"), the term "Quality of Life Related to Health" or "QLRH" (also called "State of Health") is defined as a quantification or evaluation of the specific impact of a disease or pathological condition over the perception of quality of life in a subject[6,7].

Methods

Readings of the textbooks regarding the QLRH theme were carried out and a search of studies was done in the databases of Medline (PubMed), Sielo and LILACS through Boolean operators and terms (chronic obstructive pulmonary disease [Title]) and (quality of life) and (specific health-related quality of life questionnaires), used to identify titles and summaries of original and review articles published between 1998 and 2017. The search was limited to articles in English, Portuguese or Spanish. The most relevant articles were selected to the update on the use of questionnaires on quality of life as a follow-up of patients with COPD.

To understand the concepts related to quality of life, it is necessary to clarify some definitions concerning the theme:

The concept of health

When it was constituted in 1946, in the end of WWII, World Health Organization (WHO) defined health as "a state of complete physical, mental and social well-being, and not merely the absence of disease". The concept was published in the letter of principles on April the 7th 1948 (stablishing World Health Day). It also considers that reaching the best state of health possible is one of the fundamental rights of every human being, without distinction of race, religion, and political choice, economic or social condition. It also claims the health of all peoples is essential so that Peace and safety can be achieved and depends on the cooperation of individuals and States[8].

In 1974, Marc Lalonde, official member of the Canadian Ministry of Health and Well-Being, defended that the health field encompasses: human biology (genetic heritage and the biological processes regarding life); environment; lifestyle (smoking, alcoholism, sedentarism); organization of health care (to be promoted by the state)[9].

In Brazil, the State Constitution of 1988 says, in the Article 196: "Health is the right of every individual and the obligation of the State, guaranteed through social and economic policies that aim at the reduction of disease and other losses risks and the universal and egalitarian access to actions and services to the promotion, protection and recovery".[10]

The concept of satisfaction

The term satisfaction has its origin from the Latin word satisfactione and refers to the act or effect of satisficing, meaning satiation or feeling of well-being that manifests in people, as the result of the realization of something expected or desired, under the shape of joy, contentment, pleasure and relish. Therefore, it is unambiguous that it is a subjective and dynamics sensation, with different meanings, with different contexts and strong cultural value. From the year of 2000, WHO started using in its surveys of health evaluation the concept of responsiveness of the health systems, in contraposition to the one of satisfaction, in order to value the impact of the presence of diseases and their treatments in individuals with disregard to their cultural or economical aspects. Research on responsiveness encompass two goals: the first is to measure what happens when Interact with the health care system, which implies in collecting data on the behavior, event or action of the system; the second is to measure how the people seen to by the health care system perceive and evaluate what happens[11].

The concept of Quality of Life (QL)

The concept of QL is very wide, which, in the attempt to stablish a consensus, demands an involvement of professionals of several fields of expertise (scientists, philosophers, politicians). There are quotes from well-known philosopher Socrates with reference to the concept of quality of life.[12] The term QL is widely used in the daily routine and by professionals in the context of scientific research in several fields, including medicine[13].

The investigation of QL encompasses different perspectives, goals and practices such as demography, bioethics, economy, environment and public health[13].

The concept of quality of life related to health (QLRH)

The Quality of Life related to health (QLRH) is defined by WHO as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns".[8] Four domains are encompassed by this definition: physical, psychological, social and environmental domains. This general scope denotes the dimension that the concept of QLRH must encompass as a pathology indicator: the functional state (physical, psychological and social functions) and perceptions of health. The influence of the individual's perception regarding the biopsychosocial aspects must be taken into account in evaluations and practices specific to each area, making the construct multidimensional and subjective[13].

Methods of evaluation of QLRH in COPD

The evaluation methods for QLRH are classified into three types: generic, specific and modular instruments. The first ones evaluate the general concepts of health, are not specific for age, disease or type of treatment and are used to evaluate different health domains in general populations. Even though they can miss out on detecting small differences in some specific aspect of QLRH, they enable the comparison between different diseases. The specific questionnaires, on the other hand, evaluate the health concepts especially designed for a determined disease or intervention and have separate scores for each domain, grouping the health aspects considered in the evaluation process[3]. Overall, they have a higher sensitivity for the detection of minor alterations in QLRH, but do not allow comparisons between disease groups with different aspects of physiopathology. Finally, the modular questionnaires combine both generic and specific aspects of the evaluated disease[13].

When using a questionnaire, we must observe the following measures: 1) Reliability — represented by the test/retest reproducibility, when carried out by the same observer (intra observer reproducibility) or different observers (inter observer reproducibility). It is statistically evaluated through correlation coefficients. 2) Validity — the capacity of an

instrument to measure or evaluate what is proposed. Statistically evaluated by Pearson correlation coefficients. 3) Responsiveness – the capacity a rate presents in detecting a change, if it occurs, in a certain period of time[13]. Regarding the concept of responsiveness, the dimensions of such change (in the case of questionnaires, the change in punctuation), and if this variation in punctuation is enough to cause a different perception by the evaluated subject, which is also called minimal clinically important difference (MCID), must also be taken into account[14].

The questionnaires on quality of life must also be tested regarding the studied properties of internal consistency, test/retest reproducibility and criteria validity. In these reproducibility studies, it is possible to determine the punctuation variation in these questionnaires simply regarding the answer variability, not attributed to a change in the QLRH perception. When determining this spontaneous variability, the questionnaires can be an adequate tool to the sample calculation in future studies, as well as studies which help determine the MCID[15]. After this evaluation, the psychometric properties of the used version of the questionnaire are considered sufficient or not[16].

Results

A total of 39 articles were selected and divided between two sections: validation of quality of life questionnaires (n = 22) and comparison studies between generic and specific instruments for quality of life assessment (n = 17).

The selection of the tool to be used for evaluating QLRH requires care, since it is necessary to observe the kind of comparison to be carried out, the heterogeneity of the evaluated subjects, as well as the capacity of understanding and filling out of the questionnaires. Moreover, the questionnaire must offer viable conditions to recover data in routine clinical practice. This care has to be increased in controlled clinical studies and must take into account the time pressure and variability in the subject's capacity to answer the questions. The tool selection must be centered in the use of measurements specific

for each disease, reserving generic measures for the identification of wider effects of comorbities[17].

The QLRH measurement in patients with chronic pulmonary disease is now a routine procedure for evaluating the result of therapeutic interventions. Studies with questionnaires have two purposes: a) observe the significance found in the change experienced by patients in their quality of life (statistical significance of the differences observed are analyzed); and b) evaluate the possible clinical significance attributed to this change over their quality of life[18].

The ATS (American Thoracic Society), when discussing the quality of life in COPD, considers this to be the first respiratory disease to be completely studied with tools of quality of life related to health and, due to that, the effect of COPD in subjects has been well characterized. Several studies on quality of life have applied generic tools and tools of quality of life related to health to determine the efficiency of treatments and rehabilitation programs for patients with that disease.[19]

Many, well validated, instruments for measuring quality of life related to health have also been developed for individuals with COPD, such as: Dartmouth COOP Charts – generic measurement of functional state projected for clinical use in primary attention; EuroQol or EQ-5D- generic measurement used to characterize current states of health that consists in five domains and a visual analogical scale; Functional Performance Inventory FPI – measurement of self-report by patients with COPD on their functional performance, developed from an explicit analytical structure; the performance is defined as daily activities the patients perform in order to see to their basic needs, act their usual roles and keep their health and well-being; Measure Your Medical Outcome Profile MYMOP- simple instrument projected for self-administration to be used in general clinical environment; Nottingham Health Profile NHP –generic measurement for quality of life related to health, used to evaluate disorders observed in several populations; Quality of Well-being Scale QWB – questionnaire on quality of life of general health, applied by the interviewer, who measures symptoms, mobility, physical and social activity; rates can be translated in economic

evaluation for studies on cost-effectiveness or adjusted quality of life years; SF-12 Health Survey and SF-12v2 Health Survey-O SF-12v2 ™ Health Survey – a subset of 12 items of SF-36v2 ™ which measures the same eight domains of health; it is a brief and reliable measurement of general health, and useful in big inquires on population's health, therefore widely used as a screening tool; MOS 36-Item Short Form Health Survey MOS SF-36 – generic measurement on quality of life related to health widely used to evaluate QLRH in several populations; Sickness Impact Profile SIP- generic measurement used to evaluate the disease impact on physical and emotional functioning; patients are invited to answer to the items regarding their feeling on that day, and the measurement has also been used with patients with COPD and asthma; World Health Organization Quality of Life assessment instrument WHOQOL-100 – generic measurement filled by the patient simultaneously developed in 15 places around the world; it focus around the definition of quality of life defended by WHO, which includes the culture and context that influence the health perception by the subject; Airways Questionnaire AQ-20; AQ-30 – specific instrument designed to measure the health status in patients with COPD and asthma; Breathing Problem-Based Quality of Life Questionnaire (BP-QOL), Chronic Obstructive Pulmonary Disease Activity Rating Scale CARS – specific instrument for the disease projected to measure the activity related to life, developed to be used in patients with COPD; Chronic Respiratory Disease Questionnaire CRQ – questionnaire applied by an interviewer to measure physical and emotional aspects of the chronic pulmonary disease; Pulmonary Functional Status & Dyspnea Questionnaire- PFSDQ – self-applied questionnaire that evaluates the functional status and dyspnea in patients with pulmonary diseases; Pulmonary Functional Status Scale-PFSS – functional evaluation instrument to be used in adult patients with pulmonary diseases; Quality-of-Life for Respiratory Illness Questionnaire QOL-RIQ – specific measurement of quality of life projected for patients with reversible or non-reversible obstruction of the airways; patients are questioned regarding problems divided into items according to their evolution in the last year; St. George's Respiratory Questionnaire SGRQ- instrument specific for respiratory diseases, projected to measure the impact on general health, daily life and well-being perceived by the patient; developed to be used in patients with reversible or non-reversible obstruction of the airways; Seattle Obstructive Lung Disease Questionnaire – brief self-applied computer-based questionnaire, projected to measure physical and emotional functions, coping abilities and satisfaction regarding the treatment used on patients with COPD; Teste de Avaliação da DPOC CAT- brief and simple self-applied questionnaire used to follow long term monitoring of COPD; focused on primary care; validated by three international studies, it is composed of eight items and a scale of six points, ideal for identifying exacerbations; available in several languages, although not all are validated; higher scores represent worse health status; Clinical COPD Questionnaire - detects light moderate and serious states of COPD; measures functional and mental capacities, as well as the symptoms specific to COPD; easy and self-applied, with 10 items on the previous week's symptoms, with another version for a 24-hour assessment; widely used, with over 53 translations, not all validated; higher scores represent worse health status[19].

The most commonly used tools of generic application for pulmonary diseases are EQ-5D questionnaire EuroQol in five dimensions, Health Utility Index (HUI) and 15D fifteen dimensional, which were tested with COPD, as well as Questionnaire of 36 items (SF-36), from Sickness Impact Profile (SIP), and Nottingham Health Profile (NHP)[20].

Several authors have looked for a comparison between questionnaires on quality of life, generic and specific for COPD. Many of these questionnaires, of both types, have shown they satisfy reliability, variability and sensitivity psychosometric properties, therefore being adequate for descriptive studies and/or evaluation of patients with asthma or COPD. However, the questionnaires that are specific for respiratory diseases, unlike the generic ones, were projected from the symptoms, limitations and disorders of the daily life of a patient with asthma or COPD, in order to optimize the tool properties and, mainly, the sensitivity to alterations. Harper and collaborators evaluated the reliability and validity of two specific questionnaires, SGRQ and CRQ, and two generic ones, SF-36 and EuroQoL, and observed that the specific instruments were more sensitive to alterations in the clinical status. However, the generic

questionnaire SF-36 was more appropriate to identify comorbities[21]. The same way, Desikan and col., in a study with COPD patients, showed that SF-36 is more accurate regarding identification or recognition, by the patient, of the need to go after health care services than the specific questionnaires SGRQ and CRQ[18].

Tsukino, using Chronic Respiratory Disease Questionnaire (CRQ) as specific questionnaire and Nottingham Health Profile Perfil de Saúde Nottingham (NHP) as generic measurement for QLRH, concluded that with patients with recent diagnosis of COPD, both tests were capable of detecting alterations in QLRH associated to efficient medical interventions. The influence of alterations in airflow difficulty over QLRH was weak in that study[22].

The evaluation of quality of life in patients with chronic respiratory diseases is a good indicator, in the case of COPD, of the disease seriousness, and has been significantly associated to the frequency of exacerbations of the disease. A study using SGRQ showed QLRH is worse in patients with more frequent exacerbations and these successive exacerbations limit their quality of life[23]. Therefore, controlling the exacerbations can slow the progressive deterioration of health. There is reference in the literature that the quality of life, measured through SGRQ, of COPD patients can be an independent indicator of mortality, being a good pedictor of the disease evolution.

In Sullivan's article on the critical orientations for reading works on quality of life, a report showed that in patients with asthma and COPD how a review based on evidence could be included along with QLRH as one of the measurements of primary outcome. Today there is standardization regarding the use of the results of the treatment efficiency. This standardization is a set of data built on conventional criteria of medicine based in evidence[25].

It is agreed COPD interferes with QLRH; however, there is little agreement in the literature regarding the identification of the factors that contribute to a jeopardized QL. A study carried out by Engström and collaborators showed that, although the pulmonary function was important, quality of life was significantly affected by three factors analyzed by the study: 6-minute walk test, limitation related to dyspnea and depression score[26].

A study carried out during primary care in seven European countries using SGRQ-C, the short health survey (SF-12) and the Functional Assessment of Chronic Illness Fatigue Scale (FACIFS), concluded that the average total score for SGRQ was 44.7 ± 19.4 showing endangerment appointed in QLRH. The results of SF-12 and FACIFS were consistent with those of SGRQ-C. This big observational study showed the state of health is significantly affected in patients with COPD of any level, even those with slight obstruction of airways, and in every stage GOLD of severity, there is considerable heterogeneity in compromising QLRH among patients[27].

In a big group of patients with COPD in Finland, the instruments AQ20 (airways questionnaire 20), a specific questionnaire, and 15D (fifteen dimensional), a generic one, were compared regarding their applicability. The authors of the study concluded that the scores for questions regarding dimensions in AQ20 and 15D, respectively, and the summary scores are comparable in terms of QLRH measurement in patients with COPD. Therefore, the data support the convergent validity of 15D to measure quality of life in COPD[20].

In a study of AQ20 validation in patients with COPD in Brazil, the conclusion was that it is a reproducible questionnaire, of quick application, good correlation with SGRQ, can be used for a health status evaluation in patients with COPD, mainly in situations in which time for analyzing the quality of life is short[28]. Moreover, AQ20 kept, in an ambulatory study with

chronic pulmonary disease patients, a strong ability to identify individuals with different perceptions on QLRH and an excellent accuracy through the analysis of ROC curve to predict SGRQ scores, with area under the ROC curve of 0.91 (IC95% 0.82-0.99; p < 0.001)[29]. Additionally, in another study in Brazil, AQ20 was significantly associated to relevant outcomes in COPD, such as VEF_1, SpO_2, 6-minute walk test, dyspnea and multidimensional scale of BODE mortality (IMC, airways obstruction, dyspnea and exercise capacity)[30]. AQ20 has a score that varies from 0 to 100% and the higher the score the worse the quality of life. There are no normality scores, until the present moment, defined for AQ20[28].

SGRQ was validated in Brazil initially in 2000 and had its Brazilian version updated in 2006[31,32]. It has a score that ranges from 0 to 100% (the higher the score the worse the quality of life, with scores under 10% considered normal QLRH for COPD patients)[33]. MDCI for SGRQ is defined in four percentage units. A study that compared SGRQ (specific) with SF-36 (generic) observed that the specific questionnaire showed a higher capacity for distinguishing between different levels of seriousness in COPD stages and is more strongly associated with clinical measurements of COPD than generic measurements of health.

However, generic measurements are destined to capture wider aspects of health and, therefore, can find additional information on QLRH that is not directly related to COPD only[20].

The measurements used in the questionnaires must be adequate to the approached question, sensitive to alterations relevant to patients, and capable of providing significant and acceptable scores to doctors. The questionnaires that fill in that description and are also quickly and easily applicable during consultations are efficient. The inclusion of such questionnaires in a doctor's appointment procedure will allow for a better decision making in the doctor-patient partnership, help the patient priorize a reassessment of primary health care and conduct to an efficient coping with COPD patients[34].

A review carried out by International Primary Care Respiratory Group (IPCRG) produced a user's guidebook that reassesses nine of the 42 tools that measure the disease or the well-being experience of the COPD patient. It includes tolls that measure health status or quality of life as well as tools to measure the COPD characteristics such as dyspnea and respiratory problems (Table 1)[35].

Table 1. International Primary Care Respiratory Group (IPCRG) modified chart

Tool	Validity/Reliability	Responsivity	Primary Care Population	Practical / Easy to Apply	Tested in practice	Translated to other languages
AQ20	Highly recommended	Recommended	Recommended	Highly recommended	Good	Insufficient
BPQ-S	Highly recommended	Good	Recommended	Good	Insufficient	Insufficient
CARS	Good	Insufficient	Insufficient	Good	Insufficient	Insufficient
CAT	Highly recommended	Recommended	Highly recommended	Recommended	Good	Recommended
CCQ	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended
CRQ	Highly recommended	Recommended	Highly recommended	Recommended	Highly recommended	Good
MRC-D	Recommended	Recommended	Highly recommended	Highly recommended	Highly recommended	Good
RIQ-MON10	Recommended	Recommended	Good	Recommended	Insufficient	Insufficient
SGRQ	Highly recommended	Highly recommended	Good	Good	Recommended	Highly recommended

Description and limitations of some of the most used tools[35].

1-AIRWAYS QUESTIONNAIRE (AQ20): is well correlated to SGRQ and has only 20 items (yes/no). Short and easily filled out, usually in just two minutes. Useful in a clinic environment. Self-applied. Has a smaller discriminatory power in light COPD. Has versions in Spanish, Japanese and Portuguese. Interpretation: high score indicates bad quality of life.

2-BREATHING PROBLEMS QUESTIONNAIRE – SHORT (BPQ-S): short version of BPQ. Not specific for COPD. Self-applied. Used for light to moderate COPD. More discriminatory for COPD than its long version.

3-CLASSIFICATION OF ACTIVITY RATING SCALE (CARS): measures activities related to life with COPD. Tested validity and reliability. Discriminatory power not tested. Analyses four factors (self-care, house chores, outdoor activities and social interaction) with 12 items. Easy scale of three points. Limited literature, with few studies available. Higher scores indicate less compromising.

4-COPD ASSESSMENT TEST (CAT): short and simple questionnaire that follows the long term monitoring of COPD. Directed to the primary care procedures. Composed by eight items and scale of six points. Identifies exacerbations well. Self-applied. Published in 2009. Available in several languages, not all validated. Higher scores represent worse health status.

5-CLINICAL COPD QUESTIONNAIRE (CCQ): well validated and reliable. Good in evaluating patients who are trying to stop smoking and can detect light to serious levels of the disease. Measures functional and mental capacities, as well as symptoms. Specific for COPD. Self-applied, good for daily practices. Composed of 10 items on the previous week symptoms, easily applied. Also available with a previous 24 hours version. Practical and widely used. Available in over 53 languages, not all validated. Higher scores represent worse health status.

6-CHRONIC RESPIRATORY QUESTIONNAIRE (CRQ): well validated and reliable. Reveals changes through time if used for a long period and identifies well changes in conditions after the necessity of emergency treatment motivated by exacerbations. Composed by 20 items and four domains (dyspnea, fatigue, emotional function and mastery). Can be used by the interviewer, by phone, or self-applied. Has many translations. Higher scores represent worse quality of life related to health.

7-MEDICAL RESEARCH COUNCIL, DYSPNEA (MRC-D): widely used to evaluate how symptoms (dyspnea) limits daily activities. Well validated. Has five simple items, but measures only dyspnea levels, not other results. Has a Portuguese version validated in Brazil.

8-RESPIRATORY ILLNESS QUESTIONNAIRE – 10 ITEMS - (RIQ-MON10): a reduction of the tool QI RIQ - 55 items. Well validated and compared to SF-36 and MRC scales. Sensitive to change in a stable patient and patients with light to moderate levels of the disease. Composed by two factors (physical plus emotional complaints and physical plus social limitations) with five items each. Not specific for COPD. Tested with primary care.

9- SAINT GEORGE RESPIRATORY QUESTIONNAIRE (SGRQ): the most used tool for testing quality of life in the literature, mainly for the symptoms domain, which can be used separately. Compared to AQ20 and CRQ in the literature. Gold standard, but very long, with a not very easy application. Takes 8-10 minutes. Scores are calculated for three domains (symptoms, activity and (psychosocial) impact) or total score. Can be used through phone contact or self-applied. Sensitive to changes in the patient's condition. Has many translations. Not specific for COPD. Scores vary from 0 to 100, with higher scores representing precarious health.

Conclusions

The assessment on quality of life related to health must be incorporated to clinical procedures for patients with COPD, since this disease has repercussion on the several dimensions of the patient's life. The specific questionnaires for QLRH seem to more accurately measure the impact of COPD on health

conditions, allowing for quantification of the impact of the disease as well as the advantage of several available interventions or interventions being currently tested in the scientific literature.

With the recent increase in interest in the concept of quality of life by researchers in the medical sciences field and by professionals that deal directly with patients, health schools should include in their curriculum the study of HRQoL assessment, from the understanding of the main available questionnaires (and in which situations to apply them) to the methods of application of such tools in the many areas of healthcare. Getting acquainted with the quality of life questionnaires during the period of academic training will also contribute to incorporate its use later in medical practice.

Authors' contributions

Carneiro ACC participated in the conception, design, data search, interpretation of the results, article writing and submission of the scientific article. Costa, MC participated in the data collection and interpretation. Costa, DMF participated in the data collection and interpretation. Carneiro LC participated in the data collection and interpretation and submission of the scientific article. Camelier, A participated in the conception, design, data search, interpretation of the results and article writing.

Conflicts of interest

No financial, legal or political conflict involving third parties (government, business and private foundations, etc.) was declared for any aspect of the work submitted (including but not limited to grants and funding, advisory council, study design, manuscript preparation, statistics analysis, etc).

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