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KNOWLEDGE OF THE USER WITH CHRONIC OBSTRUCTIVE LUNG DISEASE ABOUT THE DISEASE AND SELF-CARE

CONHECIMENTO DO UTENTE COM DOENÇA PULMONAR OBSTRUTIVA CRÓNICA SOBRE A DOENÇA E O AUTOCUIDADO

CONOCIMIENTO DEL USUARIO CON ENFERMEDAD PULMONAR OBSTRUCTIVA CRÓNICA SOBRE LA ENFERMEDAD Y EL CUIDADO PERSONAL

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ABSTRACT

Introduction: Chronic obstructive pulmonary disease is a chronic respiratory disease, progressively incapacitating, which requires the user to undergo a complex therapeutic regimen. Given the implications, it is essential that the user acquire knowledge about the disease that enhances self-care and self-management, which instills significance in the promotion of health literacy, as a health-promoting strategy. This study aimed to analyze the user's knowledge about the disease, self-care and disease management.

Method: This is a simple descriptive study, the target population was six users with chronic obstructive pulmonary disease in the area covered by a Community Care Unit in the municipality of Beja. A convenience sample was constituted, with inclusion and exclusion criteria and the data collection instrument used was the semi-structured interview, carried out in April 2021. Data collection began after a favorable opinion from the Ethics Committee of the Local Health Unit of Baixo Alentejo.

Results: Data were analyzed using Bardin's content analysis technique, using an inductive categorization strategy. The following categories emerged from the analysis: lack of knowledge about the disease; deficit of knowledge about self-care; lack of knowledge about disease management.

Conclusion: It was concluded that users, in addition to presenting a deficit of knowledge about the disease, self-care and disease management, also present compromised leisure activities.

Keywords: Health Literacy; Pulmonary Disease, Chronic Obstructive; Self Care; Self-Management.

RESUMO

Introdução: A doença pulmonar obstrutiva crónica é uma doença respiratória crónica, progressivamente incapacitante, que exige ao utente um complexo regime terapêutico. Face às implicações, torna-se fundamental que o utente adquira conhecimentos sobre a doença que potenciem o autocuidado e autogestão, o que incute significância à promoção da literacia em saúde, enquanto estratégia promotora de saúde. O presente estudo teve como objetivo analisar o conhecimento do utente sobre a doença, o autocuidado e gestão da doença.

Método: Trata-se de um estudo descritivo simples, a população alvo foram seis utentes com doença pulmonar obstrutiva crónica da área de abrangência de uma Unidade de Cuidados na Comunidade do concelho de Beja. Foi constituída uma amostra por conveniência, com critérios de inclusão e exclusão e o instrumento de colheita de dados utilizado foi a entrevista semiestruturada, realizada em abril de 2021. A colheita de dados teve início após parecer favorável da Comissão de Ética da Unidade Local de Saúde do Baixo Alentejo.
Resultados: Os dados foram analisados através da técnica de análise de conteúdo de Bardin, através de uma estratégia de categorização de cariz indutivo. Da análise emergiram as seguintes categorias: défice de conhecimentos sobre a doença; défice de conhecimentos sobre o autocuidado; défice de conhecimentos sobre gestão da doença.
Conclusão: Concluiu-se que os utentes para além de apresentarem défice de conhecimentos sobre a doença, o autocuidado e gestão da doença, apresentam também a atividade de lazer comprometida.
Palavras-chave: Autocuidado; Autogestão; Doença Pulmonar Obstrutiva Crónica; Literacia em Saúde.

RESUMEN

Intoducción: La enfermedad pulmonar obstructiva crónica es una enfermedad respiratoria crónica, progresivamente incapacitante, que requiere que el usuario se someta a un régimen terapéutico complejo. Dadas las implicaciones, es fundamental que el usuario adquiera conocimientos sobre la enfermedad que potencien el autocuidado y la autogestión, lo que inculca trascendencia en la promoción de la alfabetización en salud, como estrategia promotora de la salud. Este estudio tuvo como objetivo analizar el conocimiento del usuario sobre la enfermedad, el autocuidado y el manejo de la enfermedad.
Métodos: Se trata de un estudio descriptivo simple, la población objetivo fueron seis usuarios con enfermedad pulmonar obstructiva crónica en el área cubierta por una Unidad de Atención Comunitaria en el municipio de Beja. Se constituyó una muestra de conveniencia, con criterios de inclusión y exclusión y el instrumento de recogida de datos utilizado fue la entrevista semiestructurada, realizada en abril de 2021. La recogida de datos se inició tras el dictamen favorable del Comité de Ética de la Unidad Local de Salud del Baixo Alentejo.
Resultados: Los datos se analizaron utilizando la técnica de análisis de contenido de Bardin, utilizando una estrategia de categorización inductiva. Las siguientes categorías surgieron del análisis: falta de conocimiento sobre la enfermedad; déficit de conocimientos sobre el autocuidado; falta de conocimiento sobre el manejo de enfermedades.

Conclusión: Se concluyó que los usuarios, además de presentar un déficit de conocimiento sobre la enfermedad, el autocuidado y el manejo de la enfermedad, también presentan actividades de ocio comprometidas.
Descriptores: Alfabetización en Salud; Autocuidado; Automanejo; Enfermedad Pulmonar Obstructiva Crónica.

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a respiratory disease characterized by airway changes caused by prolonged exposure to harmful particles or gases, under the influence of host factors, causing persistent respiratory symptoms. Despite being a preventable and treatable disease, COPD is currently one of the three main causes of death worldwide[1], a prevalence that tends to increase[2], with considerable impact on the personal, social and economic level[1].

According to epidemiological studies, although COPD is an underdiagnosed and undertreated disease, in Portugal, it affects 800 000 people, corresponding to about 14.2% of the population aged 40 years or older[3], which means that "(...) one in seven Portuguese over 40 years of age suffers from COPD (...)."[4].

Of a progressive and disabling nature, COPD requires the user to take a central role in the face of a complex therapeutic regimen[5]. In view of the complexity that the disease involves, as well as its pharmacological and non-pharmacological treatment, the development of interventions aimed at increasing information are fundamental as a way of promoting health and minimizing its impact[6].

Compared to the European average, Portugal has a level of problematic health literacy, particularly in vulnerable groups, involving people aged 65 years or older and those with prolonged diseases[7].

A low level of health literacy is frequent in people with COPD, which enhances non-access to the therapeutic regimen, late awareness of the disease and recurrent demand and consumption of health care[8].

Thus, it is crucial to increase interventions aimed at the development of health literacy skills in order to "(...) contribute to the understanding and knowledge of one's own health status, as well as the development of skills to manage, make decisions and properly use health care."[9]. Thus, according to the study by Yadav, Hosseinzadeh, Lloyd and Harris[10],

interventions should be developed that increase health literacy and stimulate user participation, contributing to the domain of self-management of the disease and better health outcomes.

Based on these premises, the research question for the development of the study emerged: What knowledge does the user with COPD have about the disease, self-care and disease management?

With the present study, we intend to analyze the level of knowledge of users with COPD aged 40 years or older, from the area covered by a Community Care Unit (CCU) in the municipality of Beja, Baixo Alentejo, Portugal.

This study is part of the course carried out in the context of the final internship of the Master's Course in Nursing in association in the area of Specialization of Community Nursing and Public Health, aiming to analyze the knowledge of the user with COPD about the disease, self-care and disease management.

METHOD

This is a simple descriptive study, with a qualitative approach, carried out in the context of a Care Unit in the Community of the municipality of Beja, Baixo Alentejo, Portugal. A convenience sample was constituted, determined by the saturation of the data in the interviews, as recommended in qualitative studies. In order to avoid deviations, inclusion and exclusion criteria were created. Inclusion criteria were: user being 40 years of age or older, clinical diagnosis of COPD and agrees to participate in the study freely and clearly. Exclusion criteria: being under 40 years of age, speech unintelligible and not agreeing to participate in the study.

In this study, the participants were six users diagnosed with COPD, aged between 63 and 90 years, five married and one widowed, two female and four male users. Regarding the educational qualifications three of the users reported having attended the fourth year and the remaining three attended the first year, fifth year and the sixth year.

Regarding the professional situation, all users of the sample are not part of the working population, and all participants are retired.

Data collection took place in April 2021, through semi-structured interviews, recorded in audio recording. The interviews, with an average duration of 30 minutes, were guided by a script created, with socio-demographic characterization of users and with units of

analysis according to the objectives of the study. In order to ensure the validity of the script, its content was put to the consideration of two experts and the topics involved: COPD for the user; the user with COPD and the management of the disease and characterization of the self-care of the user with COPD.

After the favorable opinion of the Ethics Committee of the Local Health Unit of Baixo Alentejo, present in the point 5.1, of the Minute no. 13 considering the meeting ocurred at 04/2021, approved by the Board of Directors on 04/07/2021, the clinical supervisory nurse, as a link to the users, contacted them, presenting to them the main investigator and the objective of the study. Subsequently, the Informed Consent was delivered and signed by the users and the data collection was scheduled.

After the interviews, the qualitative content analysis was performed according to the one proposed by Bardin[11]: pre-analysis (organizing the initial ideas and elaborating indicators that support the final interpretation); exploration of the material (various readings of the material in order to group ideas and emerge categories and subcategories); data processing (interpretation and presentation of data in categories).

In order to maintain the anonymity of the users who participated in the study, the data resulting from the interviews were fully transcribed and stored electronically in Word text, being encoded by the letter "U", numbered from 1 to 6, according to the order of the interviews ("U1; U2; U3; U4; U5; U6"). Thus, the corpus of analysis of the study consists of the 6 interviews conducted.

After the interviews and their transcription, the researchers made several readings of them to fully understand the participants' discourse.

In order to ensure data fidelity, the categorization process was put to the consideration of two experts. Later, to certify the validation of the results, we returned to the coding support grid created, for validation of the descriptions, all of which were validated.

In order to facilitate the understanding of data analysis, the categories achieved will be exposed taking into account what is intended in the research question of the study.

RESULTS AND DISCUSSION

The analysis of the data obtained, taking into account the proposed research question, the following categories: **lack of knowledge about the disease, lack of knowledge on disease management, lack of knowledge about self-care**.

Category I – lack of knowledge about the disease.

Through the interviews it was possible to verify that the users participating in the study have a lack of knowledge about the disease, as manifested in their statements through excerpts from their sentences:

(...) "I do not know. It is Chinese." (U3)

(...) "I know little ... It is going to the hospital breathing hard." (U3)

(...) "I do not know. Is it dust?" (U6)

Most users interviewed reported not knowing specifically their diagnosed disease, which manifests the need to inform users about the concept of the disease, so that they can become aware of what it involves.

The complexity of COPD generates difficulties in self-management, which cumulatively with the low level of health literacy, prevalent in people with COPD, originate "(...) non--treatment to the therapeutic regimen, late awareness of prognosis, increased hospital readmissions and dependence on health care.". Thus, nurses through the promotion of health literacy can contribute "(...) for the knowledge and understanding of information.", which allows an adequate management of the disease[8].

When asked about the disease, three of the users reported not knowing *"Nothing..."* (U3; U4); *"I do not know"...* (U2) and three reported *"My disease is like this: I get to lose... Today I do, Tomorrow I do not"* (U1); *"I get tired a lot."* (U5) and *"Cost to breathe."* (U6).

Similar to the reports we obtained from the participants, also in the study conducted by Souza, Garcia, Rabahi and Corrêa[12] there was a low level of knowledge about COPD. A finding that concerns the authors because, according to them, "(...) knowing about your own disease can be an important step towards the adoption of healthier lifestyle habits that will result in better quality of life and reduced health costs."[12].

Many people diagnosed with COPD have never heard of the pathology[13], which was found in the study regarding the knowledge about the meaning of the acronym COPD, and there was unawareness on the part of all participants, who said *"I do not know."* (U1; U2; U4; U5; U6) and *"I do not know. It is Chinese..."* (U3).

As for the causes of the disease, all users mentioned not knowing them: *"I do not know."* (U1; U2; U4; U5; U6) and *"There must have several but do not know."* (U3). Two of the interviewees mentioned "dust" and "tobacco": *"I do not know. Is it dust?"* (U5) and the *"I do not know. Tobacco, trough?...."* (U6), expressing doubts about their answers.

Regarding the risk factors, it was found that two of the users interviewed reported having been carpenters (exposed to wood dust), a profession at risk for the disease, not recognized as such.

Prolonged occupational exposure to vapors, dust and chemicals is a risk factor for the emergence of COPD[1-14,15], also highlighting the intervention of extreme temperature changes, such as heat, cold, wind and humidity[16].

As for smoking habits, it was found that two users are non-smokers and four users ex-smokers, and no user has been told why they decided not to smoke or quit smoking.

"I did. That is how it was." (U1); *"I have quit overnight. I got it in my head."* (U3); *"Oh... I do not know... Quit. I have not smoked in 37 years."* (U4); *"I never wanted to know that..."* (U5); *"I am done with that..."* (U6).

Tobacco consumption is the main cause of COPD and smoking cessation is a fundamental key included in the COPD therapeutic regimen, which has the ability to influence the natural history of the disease[1]. Thus, it is crucial to bet on strategies that promote smoking cessation in users with COPD, as recommended by the Directorate-General for Health[17].

When the users were asked about the symptoms of the disease, four mentioned *"shortness of breath"* (U1; U2; U3; U4), of these four users, one mentioned *"...tiredness... this thing in the throat."* (U4), one also referred to *"... it is pain, I do not know."* (U1), another added *"...it is to get dizzy... affliction... panic..."* (U2), and two users being unaware of the symptoms of the disease, stating: *"I do not know."* (U5; U6).

According to Ramos[18], COPD presents as symptoms cough, sputum and dyspnea, the latter being caused by loss of elasticity and destruction of lung tissue, which makes expiration difficult, compromising the respiratory cycle. In this regard, Marques, Figueiredo, Jácome and Cruz[15] tell us that people with COPD may present different symptoms and may have one or more symptoms.

It was found that none of the users participating in the study manifested cough and sputum as symptoms of the disease, or do not recognize them as such. Among the symptoms of COPD are cough and daily sputum, with a morning predominance[16].

According to the Directorate-General for Health[19], patients' symptoms should be investigated, because patients usually tend to devalue them, since at rest they are absent, or because they self-limit physical activity, which is not recommended. Thus, it is essential that users with COPD know the symptoms of the disease and know how to act to control or prevent them.

Category II – lack of knowledge on disease management.

Regarding the category of knowledge on disease management, references were found that translate into the following subcategories: lack of knowledge on strategies to avoid exacerbations; lack of knowledge on how to act before an exacerbation; compromised influenza/antipneumococcal vaccine; lack of knowledge on inward technique.

Regarding the knowledge of users regarding the medication used, all users reported using inhalers, and five users reported not knowing the name of the inhalers they use: *"I do not know the name, I will search..."* (U3); *"I do this one. I am searching it..."* (U6). Regarding the latent technique it was possible to verify that none of the users mentioned all the constituent steps of the inhalator technique, with 1 user saying that she needs her husband's help: *"I do not know. He is the one who takes care of it. I am afraid of breaking it."* (U5).

The treatment of COPD should include two fundamental approaches: drug and non-medication[1]. With regard to pharmacological treatment, the inward route is the route of choice in the pharmacological treatment of the disease. The emergence of new drugs and devices allowed an adjustment to individual needs and contributed to the improvement of the quality of life of the person with COPD. However, optimizing its use requires a correct inhalator technique, which is manifested in a complex task for the user, because there are different types of inhalers, with various specificities of use. In this way, it is crucial that nurses contribute in order to clarify aspects "(...) related to the use of inhalers, providing practical and simple instructions for the correct use of inhalers by patients."[20].

Regarding vaccination, it was found that four users reported having the flu vaccine annually and two users reported not: *"No. I only did it once, like, 10 years ago. I went to the pharmacy one day and I did it."* (U2), not knowing that influenza vaccine and antipneumococcal vaccine are recommended for COPD patients.

In this regard, Castel-Branco and Figueiredo[21] report that the vaccination of influenza and antipneumococcal vaccine reduces severe disease and death by 50%. Thus, it is important to contribute so that users with COPD can recognize vaccination as an elementary attitude in the management of the disease.

When asked about exacerbations, it was possible to verify that there is a lack of knowledge about strategies to avoid them, as well as in the actions to be taken in the face of an exacerbation: *"I run to the pump!"* (U4); *"We call the firemen."* (U5).

According to Almeida, Simão, Silva, Fernandes and Senra[16], the factors that trigger worsening of the disease are domestic and environmental pollutants, respiratory infections and temperature changes. In addition to these factors, emotions (such as aggression, anxiety and stress) can also trigger this aggravation.

Thus, in addition to being the user to know how to act before an exacerbation, it is also essential that users with COPD have knowledge about the triggering factors in order to develop coping strategies that contribute to its prevention.

Category III – lack of knowledge about self-care.

When asked about knowledge in relation to self-care, answers were obtained that made it possible to divide this category into the following subcategories: compliance with the teachings performed by health professionals; lack of knowledge about healthy eating; non-access to the practice of physical exercise; ignorance of relaxation techniques; unawareness of energy conservation strategies.

Through the interviews conducted, it was possible to verify that users have a lack of knowledge about the treatment of COPD, particularly about the non-pharmacological approach, and they associate the treatment of the disease essentially with the use of inhalers. Since the non-pharmacological treatment of COPD is an essential complement to pharmacological treatment, nurses can develop a preeminent role with the COPD user, caregiver or legal representative. It can encourage smoking cessation and exposure to environmental smoke, intervene in the promotion of physical activity and healthy eating, vaccination and therapeutic plan, respiratory rehabilitation and education on symptoms of exacerbation[1-18]. Informing about elementary self-care in COPD contributes to the increase of the user's knowledge so that it can maximize its relationship with the disease, avoid complications and the evolution of the disease[15].

In the study, it was reported that the fulfillment of the teachings carried out by health professionals by all users, autonomously or with the help of the spouse: *"Yes, I do it all."* (U6); *"I make it. With his help."* (U5).

As Menezes and Dantas concluded in the study carried out in a reference hospital for pulmonary diseases, with a sample of 46 people with COPD, mostly elderly, that non-pharmacological treatment is not widespread. The authors highlighted the participation of health professionals in the outpatient clinic as a fundamental intervention proposal to increase knowledge and adherence to the components of the non-pharmacological approach to the disease.

Feeding and physical activity are part of the COPD therapeutic regimen, as non-pharmacological components of its treatment[1].

Regarding food, it was verified through the one described by the users, which is irregular in one of the participants: *"...if late lunch I don't din..."* (U6), three of the interviewees have an unvaried diet: *"...Based on grain, beans..."* (U3); *"A toast, tea, fruit..."* (U1) and one user described a complete feeding: *"...I eat everything..."* (U4). A lack of appetite has been reported by one user: *"...I am not hungry at all. Nothing. I eat just for eating..."* (U1) and another user reported that he also presented periods of lack of appetite: *"Now I eat better. I have had times I ate worse."* (U5). There was also a reduced daily water consumption *"...Water? Two little bottles of these."* (U6).

Diet is a fundamental component of the COPD therapeutic regimen, because malnourished users show reduced performance in physical exercises, compared to those in normal nutritional status[23,24]. Food emerges as a fundamental self-care in the treatment of the disease, which instills relevance to the acquisition of knowledge about healthy eating.

When asked about the practice of physical exercise, all users interviewed reported not practicing physical exercise: *"This is nothing..."* (U4); *"I do not. I do not do anything."* (U5), having three of the users recognized benefits in their practice: *"... there was a time when I had the respiratory... it was good."* (U1). The users justified the non-adherence to the practice of physical exercise due to tiredness *"...I would like to, but I get tired."* (U3); *"No, no, no, I get tired a lot."* (U6).

According to what was concluded by Souza, Garcia, Rabahi and Corrêa[12] in the study that conducted a sample of 75 people with COPD, 70.7% of the participants are severely inactive, a finding that worries the authors, because it "(...) is essential for the proper management of COPD (...)".

The benefits of physical activity are numerous, and it is vital that users with COPD regularly perform exercises. Therefore, exercise intolerance in COPD is mainly caused by inactivity that is associated with dyspnea, leading to a reduction in physical activity. This cycle of progressive lack of adaptation to exercise, described by many authors as a "dys-

pnea spiral", leads to increased muscle fatigue, reduction of its tone and gradual dyspnea to small efforts, which generates inactivity and sedentary lifestyle, with psychological, social and professional repercussions[25].

Evaluating life activities should include an evaluation of advanced activities that encompass leisure and leisure activities (such as traveling and going to the theater), evidencing the author's importance of maintaining or recovering these activities, and should be one of the main objectives in nursing care planning[26].

When invited to make a general assessment about their days and leisure activities performed, it was possible to verify that there is a monotony in the days common to all users, associated with dyspnea and enhanced by the presence of comorbidities: *"This is... My days. Here it is."* (U1); *"To be here at home, it is turning on channels, turning off channels. And here I spend my days...I can't with the pain."* (U2); *"...are here. Making Sudoku..."* (U3); *"At home. I am here."* (U5); *"I sit there all day... Sometimes I go to the window or the phone and get tired."* (U6). The frequency of the practice of a leisure activity is transversal to users, using the expression: *"sometimes"*.

"... I go to the balcony sometimes." (U1); *"I go to the café sometimes with the woman or go get medication. I go to my son's house sometimes."* (U2); *"I am here. Sometimes I go to the garden with a crucible. I used to rent... and mesh, not now. It bothers me now."* (U5).

Sedentary lifestyle enhances the mortality of people with COPD, since the regular practice of physical activity is a protective factor of the risk of exacerbations and hospitalizations[27]. In this regard, according to the systematic review by Hunt, Madigan, Williams and Olds[28], on how COPD patients use their time, it is agreed that people with COPD have reduced levels of daily physical activity, with sedentary periods.

Regarding what could make a positive difference in their days, users mentioned: mobility; not get tired; unknown/do not think about it.

"It is going out with my grandchildren... and not get tired." (U1); *"Mobility"* (U2); *"I do not know, I do not know, I do not think about those things much. I'm trying to do it day by day."* (U3); *"Do not get tired."* (U4); *"It was good breathing. It was not to get tired so much..."* (U6).

COPD causes suffering for users and their families[29], so it is basic to remind users that there is health beyond the disease and that it is important to maintain a positive attitude, in order to face behavioral, cognitive, emotional and social changes, with minimal impact on their quality of life[30]. In view of what was mentioned by the authors of the bibliographic research and having identified the leisure activity compromised in the users stu-

died, there is a need to develop an intervention that stimulates their practice, in order to contribute to the eviction of sedentary lifestyle and its repercussions, enhancing the quality of life of users with COPD.

Regarding the main difficulties mentioned by users in their daily lives, in terms of daily activities, it was walking: *"It is walking..."* (U2); *"I go to the dumpster and get tired."* (U3) and climb stairs *"It is going up the stairs of the Health Center when I go to do analysis."* (U1); *"... I have got some stairs there, it is been months since I climb them."* (U5) or inclined routes: *"Up the slope..."* (U4).

COPD affects the airways, lungs and bronchi, with repercussions on inspiration and expiration. This progressive and disabling disease will lead to difficulty in running or making other physical efforts, such as climbing stairs or walking[31].

Thus, energy conservation, adaptation to the environment and postural adequacy consist of essential strategies for performing daily activities, manifesting themselves as efficient in reducing the sensation of dyspnea, improving the performance of users in performing activities, contributing to increase their functionality and breaking the biased cycle of inactivity[32].

In the study, it was possible to verify that none of the users interviewed had knowledge about energy conservation strategies, as well as relaxation techniques.

The progressive functional limitations that the disease has have a significant impact on autonomy and social participation[31], being fundamental to promote strategies that potentiate them, in order to contribute to the quality of life of users with COPD.

CONCLUSION

In response to the research question, the study allowed analyzing the knowledge of a sample of users with COPD about the disease, self-care and disease management, emerging the following categories: "lack of knowledge about the disease"; "lack of knowledge on disease management"; "knowledge gap on self-care".

Thus, it is possible to affirm that the research carried out reproduces the need for a nursing intervention promoting health literacy, in order to contribute to the promotion of health and quality of life in users with COPD.

The researchers believe that carrying out the study also allowed alerting to the problem in focus, as chronic disease with respiratory and systemic repercussions of impact in various spheres. As it is essential that both users with COPD and the general population are aware that this is a preventable disease, the treatment of which encompasses a non-pharmacological component where the role of the user is crucial.

As a limitation, it is important to mention the difficulties arising in the methodological approach, taking into account the data collection instrument selected by the researchers, since content analysis requires expertise.

In addition to the above, the researchers also encountered difficulty in the research, in order to perform a reasoned confrontation of the results obtained through the interviews, which instills importance to the contribution of this article, supported by a bibliographic research and scientific evidence.

The study allowed concluding that there is a need to look at the theme from a perspective that is promoting health literacy, which may contribute to future studies on the variables analyzed. It can then be said that the promotion of health literacy should be a primary objective of future interventions, in order to contribute to the increase of the knowledge of users with COPD.

Authors' contributions

MB: Design and coordination of the study, collection, storage and analysis of data, review and discussion of results.

EA: Study design, review and discussion of results.

EC: Study design and coordination, data analysis, review and discussion of results.

All authors read and agreed with the published version of the manuscript.

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