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# Quality of life of patients with lung cancer: A scoping review

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## Abstract

*Objective*: To characterize scientific publications on the quality of life of people with lung cancer in order to explore current knowledge of the subject, with emphasis on assessment instruments and methodological aspects. *Method*: A scoping type literature review was performed. Articles were sought in the databases of the Virtual Health Library, in an integrative manner, with the descriptors: Quality of life and Lung Neoplasms, with no date of publication or language restrictions (n=138). The selection of articles was based on inclusion and exclusion criteria defined in the study proposal. *Results*: We included 18 publications published between 2006 and 2017, the majority (n = 10) of which had a cross-sectional design. Eight different instruments were used to evaluate the quality of life of patients with lung cancer, four of which were specific for people with cancer. There was a prevalence of the use of the *European Organization for Research and Treatment of Cancer Care Quality of Life Questionnaire* - EORTC QLQ-C30 (n=8). Prospective studies (n=8) assessed quality of life before and after chemotherapy, physical therapy or pulmonary resection. The studies adopted different methodologies and provided conflicting results of quality of life. Cross-sectional studies with comparatively healthy subjects found an inferior quality of life for people with lung cancer. *Conclusion*: The scoping review contributed to the identification of the multiple evaluated instruments, both generic and specific. It found a lack of homogeneity in the methodological approaches of the studies. Further prospective studies with a specific instrument and methodological standardization to evaluate the quality of life of people with lung cancer are recommended.

**Keywords:** Quality of Life. Lung Neoplasms. Bibliometrics. Health of the Elderly. Aged, 80 and over.

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## INTRODUCTION

Lung cancer became a frequently detected condition among the global population in the 20th century, and as a result, a significant cause of mortality around the world[1]. The disease mainly affects the elderly, with most cases diagnosed in people 65 years of age or older[2], while around half of patients are over 70[3]. In Brazil, it is estimated that there will be 18,740 new cases in men and 12,530 cases in women in 2018-2019[4].

Lung cancer carries considerable weight in the main cancer-related statistics. It is a significant tumor due to its high mortality rate in every country. In addition, the quality of life (QoL) of patients may be affected by different factors, such as the stage of the disease and the type of treatment, as well as individual aspects, causing a negative impact on disease outcomes. Hence the importance of evaluating the QoL of this target group[5], preferably using specific instruments for the disease, taking into account aspects related to cancer such as coughing, fatigue and tobacco use.

Among the specific instruments cited are the Functional Assessment of Cancer Therapy-Lung (FACT-L), which contains questions about symptoms, cognitive function and smoking habits[6]. Also worthy of note is the European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire and Lung Cancer Module (QLQ-LC13), which supplements QLQ-C30, both of which have been developed and validated for people with lung cancer and for use in an international context. QLQ-LC13 assesses aspects related to symptoms and the side effects of treatment[7].

QoL is a broad concept and was developed through the initiative of the World Health Organization (WHO), in the development of the generic World Health Organization Quality of Life (WHOQoL) instrument. The WHO defined QoL as the "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]. Therefore, the concept is subjective and relates to different aspects of life, degree of satisfaction, whether in one's family, love, social and environmental life, and the existential esthetic[9].

When this broad concept is transferred to health, it becomes health-related QoL. It can be affected by alterations caused by damage to one's functional state, perceptions and social factors, influenced by diseases/harm, treatments and health policies. Thus, the concept can also be delimited by the interference of disease in the lives of individuals[9], which justifies the need for specific instruments for a particular disease.

A greater understanding of quality of life and lung cancer will support professionals in managing the clinical care of these patients, as well as future studies. The present study aimed to characterize relevant scientific publications to explore current knowledge about the quality of life of people with lung cancer, with an emphasis on assessment instruments and methodological aspects.

## METHOD

A scoping review study was carried out. This type of study recognizes a topic that has not yet been addressed by a systematic review, or that has a complex and heterogeneous nature, making it difficult to more accurately review the evidence. This method helps to identify gaps in knowledge and to propose recommendations for future research. The study followed the following projected steps: (1) identification of the research question; (2) identification of relevant studies; (3) selection of studies; (4) data mapping; (5) comparison, summary and reporting of results[10]. The following question was defined: What is the current knowledge about the QoL of patients with lung cancer, the evaluative instruments and the methodological aspects of the studies?

The search for references was performed in the regional Virtual Health Library (VHL), as it integrates content on a specific theme from different countries. The databases were consulted in an integrative manner (patients with lung cancer AND quality of life) AND (instance: "regional"), without date of publication or language restrictions. The 14 bases of the VHL (international and Brazilian) in the area of

Health Sciences include Lilacs (Latin American and Caribbean Literature in Health Sciences), Medline (Medical Literature Analysis and Retrieval System Online), SciELO (Scientific Electronic Library Online), the Cochrane Library, BDENF (Nursing Database) and IBECS (Spanish Bibliographical Index of Health Sciences). The search took place in December 2017 and was updated on August 29, 2018. Portuguese descriptors were used. The VHL retrieves publications in any language, in addition to that used, in Portuguese, English or Spanish. Even with Medline, in which most of the texts are in English, the use of any of the three languages mentioned is recommended when searching by subject descriptor (https://bvsalud.org/como-pesquisar/).

The inclusion criterion for selection by title/abstract was: Theme of QoL in people with lung cancer. The exclusion criteria were literature/theoretical review articles, duplicity in different databases, articles taken from the same research, studies with the principal objective of validating instruments by correlations of items/domains; case/experience reports; research and study protocols with the central purpose of comparing treatment modalities, with QoL a background variable.

The selection of the material was performed by two researchers, individually and independently (Figure 1), without disagreement between evaluators (kappa=1).

Qualitative analysis was carried out through the characterization of the publications. The data of interest were: author(s)/year; journal; language; population (age), place of recruitment; state/country; study design; assessment instruments and synthesis of results. Comparative cross-sectional and longitudinal studies were assessed for methodological quality by the Newcastle-Ottawa Scale (NOS) scale, which provides scores up to nine points and where a higher score reflects better quality. This scale considers three methodological questions: Participant selection, statistical comparability between groups and exposure/outcome items[11]. For comparative cross-sectional studies the case-control scale was adapted, and for prospective studies, the cohort scale.

## RESULTS

As shown in Figure 1, 18 articles[5,9,12-27] were selected for review.

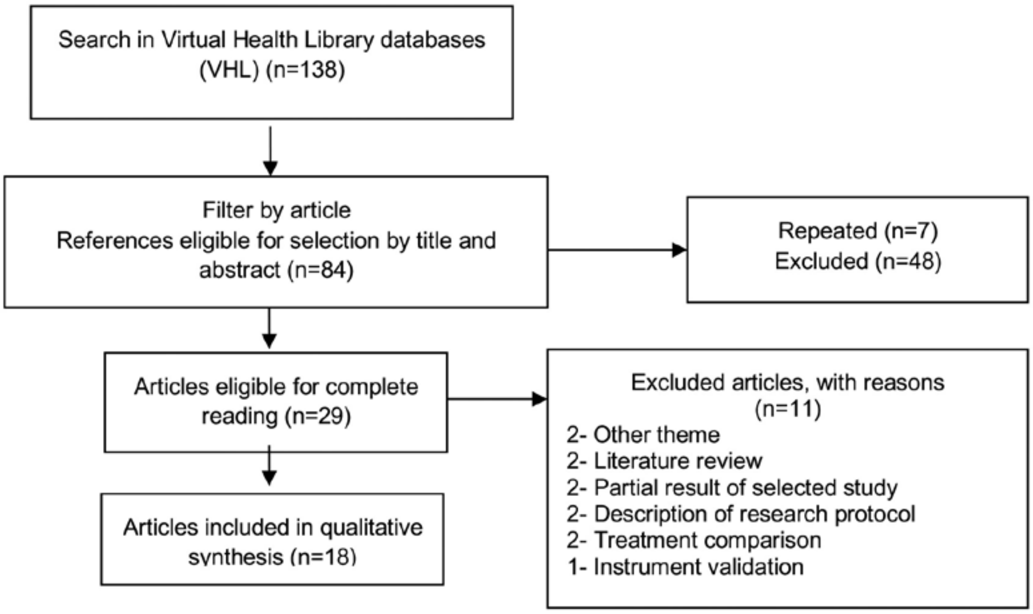

**Figure 1.** Flowchart of search process of study carried out in Universidade Estadual de Montes Claros, Minas Gerais, Brazil. 2018.

Chart 1 characterizes the studies published between 2006 and 2017. A total of 44.4% were published in English and 55.6% in Portuguese.

Five studies[13,16,19,25] included individuals with other types of cancer. In 94.4% (n=17), the samples were convenience based, recruited in hospitals or cancer centers. A cross-sectional design was adopted in 55.6% (n=10) of the studies. Non-controlled prospective, "before and after" studies assessed QoL before and after chemotherapy[9,14], before three cycles of chemotherapy[26], before and after lung resectioning[21,22], before and after physiotherapy[20], before starting treatment and two and four months after the first evaluation and/or the beginning of treatment[27].

The researchers used eight instruments (Chart 2).

Chart 3 describes concurrent (n=7) and cross-sectional (n=2) prospective studies in terms of QoL instrument, affected domains, and assessment of methodological quality. The loss of quality of the studies, in general, is due to convenience sampling; self-reported information; disease already established at the beginning of recruitment and lack of multivariate analysis.

**Chart 1.** Description of studies included in scoping review in descending chronological order based on year of publication, 2017-2006.

| **Authors, Year** | **Study design** | **Population age and/or (mean ± standard deviation years)** | **Place of patient recruitment/Country/Year of data collection** |
|---|---|---|---|
| Borges et al., 2017[24] | Cross-sectional | Patient-caregiver dyad<br>Patient: (65.2±11.1)<br>Caregiver: (47.6±13.2) | Oncology outpatient clinic of university hospital of Universidade Federal de São Paulo (Unifesp), in the city of São Paulo, Brazil. Year of data collection not stated. |
| Fiteni et al., 2016[23] | Cross-sectional (*baseline* of a clinical trial) | Patients aged 70-89 years | From a wider study in France. Year of data collection not stated. |
| Nai-Wen et al., 2015[12] | Cross-sectional | Patients<br>Men: (62.8±10.6)<br>Women: (61.6±9.8) | Two teaching hospitals in Taipei, Taiwan, 2012. |
| Ferreira et al., 2015[9] | Longitudinal | Patients<br>61-79 years (69.4±5.7) | Unified Health System (or SUS) Hospital, Recife, Pernambuco, Brazil, 2012. |
| Frio et al., 2015[25] | Cross-sectional | Patients<br>(64.24±11.69) | Chemotherapy service of Hospital School of Universidade Federal de Pelotas, Rio Grande do Sul, Brazil, 2008 to 2010. |
| Avelino et al., 2015[26] | Study of multiple cases | Patients<br>(66±11.1) | Public hospital in Rio de Janeiro, Brazil, 2013. |
| Nicolussi et al., 2014[13] | Cross-sectional | Patients<br>aged 18 to over 80, with 39.5% aged ≥60 years. | Specialized Oncology Center (or CEON) of Hospital Sociedade Portuguesa de Beneficência and Chemotherapy Center of HC-FMRPUSP, Brazil, 2009-2011 |

to be continued

Continuation of Chart 1

| **Authors, Year** | **Study design** | **Population age and/or (mean ± standard deviation years)** | **Place of patient recruitment/Country/Year of data collection** |
|---|---|---|---|
| Muller et al., 2014[27] | Longitudinal | Patients aged 43-81 years<br>Surgical group(64.7±10.1) and non-surgical group (62.8 ± 9.4) | Clinical hospital in Porto Alegre, RS, Brazil, 2009 to 2010. |
| Oliveira et al., 2013[14] | Longitudinal | Patients<br>51-87 years<br>(68±8.8) | Public hospital in São Paulo, Brazil,<br>2007-2009 |
| Franceschini et al., 2013[15] | Cross-sectional | Patients<br>(61.3±10.1) | Oncology-pneumology Outpatient Clinic of Hospital São Paulo (Unifesp) in São Paulo, Brazil. Year of collection not stated. |
| Pastore, Oehlschlaegere and Gonzalez, 2013[16] | Cross-sectional | Patients<br>(63.9±11.6) | Chemotherapy service of Hospital School of Universidade Federal de Pelotas (Rio Grande do Sul), Brazil, 2008-2010. |
| Floyd et al., 2011[17] | Cross-sectional | Patients<br>41-84 years<br>(64±9.12) | Regional Cancer Center in USA,<br>Year of collection not stated. |
| Weaver et al., 2011[19] | Cross-sectional | Patient-caregiver dyad. Minimum age not stated, maximum ≥80 years.<br>53.1% ≥66 years. | Database: National Cancer Institute Cancer Care Outcomes Research and Surveillance (CanCORS), USA,<br>2004-2005 |
| Lee et al., 2010[18] | Cross-sectional | Patients and healthy controls in database of 2001 National Health Survey. Patients: 30-85 years (63.6±11.0)<br>Controls: 32-65 years (57.2±6.7). | National Taiwan University Hospital (NTUH), Taiwan, 2002 |
| Ozalevli et al., 2010[20] | Longitudinal | Patients<br>53-83 years<br>(66.17±7.33) | Chest Diseases Department of Dokuz Eylul University, Turkey,<br>Year of collection not given. |
| Lima et al., 2009[21] | Longitudinal | Patients<br>39 to 79 years<br>(60.18±11.59) | Thoracic Surgery Department Hospital A. C. Camargo de São Paulo, Brazil,<br>2006-2007. |
| Franceschini et al., 2008[5] | Longitudinal | Patients and individuals without cancer<br>Patient: (61.3±16.4).<br>Control: (60±12.2) | Oncology-pulmonology outpatient clinic of Hospital São Paulo (Unifesp) Brazil,<br>Extra Penha Exercise Group (controls), Brazil,<br>Year of collection not given. |
| Saad, Botega and Toro, 2006[22] | Longitudinal | Patients<br>18-78 years (55.5±13.4) | Clinical Hospital of Universidade Estadual de Campinas, Brazil, 2001-2003. |

**Chart 2.** Instruments used to assess quality of life according to functions and items.

| **Instruments for assessment of quality of life** | **Functions/items of assessment of instruments** |
|---|---|
| European Organization for Research and Treatment of Cancer Care Quality of Life Questionnaire (EORTC QLQ-C30[9,12-16,23,25,26] | Specific instrument for cancer.<br>Contains 30 assessment items: a General Health/Quality of Life scale; five functional scales (physical, cognitive, emotional, social and role performance functions); eight symptom scales (fatigue, pain and nausea and vomiting, dyspnea, loss of appetite, insomnia, constipation and diarrhea) and an item assessing the financial impact of treatment and illness. |
| Quality of Life Questionnaire Lung Cancer Module (LC-13), version 3.0[14,26] | Specific instrument for lung cancer.<br>Complementary module of EORTC QLQ-C30.<br>Contains 13 assessment items based on symptoms associated with lung cancer: a dyspnea and other items scale (cough, hemoptysis, dyspnea and pain at specific site), treatment-related effects (sore throat, dysphagia, sensory neuropathy and alopecia) and pain management. |
| Functional Assessment of Cancer Therapy-Lung (FACT-L)[15,17] | Specific instrument for assessment of lung cancer.<br>Contains 36 assessment items.<br>The instrument is subdivided into four main quality of life domains: physical, social/familial, emotional and functional) plus nine specific items for lung cancer. |
| Saint George's Respiratory Questionnaire (SGRQ)[21] | Specific instrument for chronic obstructive pulmonary disease.<br>Contains 76 evaluation items.<br>Addresses aspects from three domains: symptoms, activity and psychosocial impacts of the respiratory disease on the patient. |
| Medical Outcomes Study 36-item Short-form Survey (SF36) [5,15,21,22,24,27] | Generic quality of life instrument.<br>Contains 36 assessment items.<br>Consists of eight domains: functional capacity, physical functioning, body pain, general health, vitality, social aspects, emotional function and mental health; and one question aimed at the comparative evaluation of current health conditions and conditions a year ago. |
| Medical Outcomes Study 36-item Short-form Survey (SF12)[19] | Generic instrument of quality of life.<br>Short version of the SF 36 instrument described above.<br>Contains 12 items that address the physical (functional capacity and limitations by physical aspects) and mental components (pain, vitality, social aspects, limitation by emotional aspects and mental health). |
| World Health Organization's Quality of Life (WHOQoL-BREF)[18] | Generic instrument of quality of life.<br>Contains 26 items, two of which are general quality of life and the others which represent each of the 24 facets of the instrument, classified into four main domains: physical, psychological, social and environmental. |
| Nottingham Health Profile (NHP)[20] | Generic quality of life instrument.<br>Contains 38 items<br>Self-administered questionnaire, with answers in yes/no format. Items organized into six categories including: energy level, pain, emotional reactions, sleep, social interaction and physical abilities. |

**Chart 3.** Description of prospective and cross-sectional comparative studies according to quality of life (QoL) instrument, affected domains and evaluation of methodological quality.

| **Authors and year of prospective concurrent studies** | **Instrument used to assess QoL** | **QoL domain affected.**<br>**Results of prospective studies following chemotherapy, physiotherapy and pulmonary resection** | ***Newcastle-Ottawa* Scale** |
|---|---|---|---|
| Ferreira et al., 2015[9] | European Organization for Research and Treatment of Cancer Care Quality of Life Questionnaire - EORTC QLQ-C30 | After chemotherapy there was a decline in physical performance. However, there was no change in QoL. | 6(9) |
| Avelino et al., 2015[26] | EORTC QLQ-C30 Lung Cancer Module (LC-13) | After three cycles of chemotherapy, with an interval of 21 days. There was improvement in the physical capacity scale and a deterioration in the cognitive scale. The items that showed improvement were: pain, pain in the chest and in the arm or shoulder and loss of appetite. | 4(9) |
| Muller, Silva and Xavier, 2014[27] | Medical Outcomes Study 36-item Short-form Health Survey (SF-36) | There was no difference in QoL after the start of chemotherapy or 60 and 120 days after the first evaluation. The population was divided into two groups: surgical and non-surgical. No difference in QoL between groups. | 4(9) |
| Oliveira et al., 2013[14] | EORTC QLQ-C30<br>and<br>LC-13 | After chemotherapy, there was an improvement in the QoL of the symptoms of dyspnea. After chemotherapy there was improvement in the symptoms of hemoptysis and a worsening of alopecia. | 5(9) |
| Ozalevli et al., 2010[20] | Nottingham Health Profile<br>(NHP) | After physical therapy there was an improvement in cancer patients in terms of physical mobility, pain, energy, emotional aspects and sleep. | 6(9) |
| Lima et al., 2009[21] | Saint George's Respiratory Questionnaire (SGRQ)<br>and<br>SF-36 | After pulmonary resection the results for the symptoms, activity and impact domains were worse in comparison with the overall Spanish population.<br>After pulmonary resection, there was no difference in QoL when compared to a healthy control population. | 4(9) |
| Saad, Botega and Toro, 2006[22] | SF-36 | After pulmonary resection there was an improvement in QoL in the social domains 90 days after surgery; physical and functional performance in the individuals, with better performance in the walking test and forced vital capacity; and in the physical domain in cases with reduced pulmonary resection. | 7(9) |
| **Authors and years of cross-sectional comparative studies** | **Instrument used to assess QoL** | **QoL domain affected.**<br>**Results of comparative cross-sectional studies** | |
| Lee et al., 2010[18] | World Health Organization's Quality of Life- WHOQoL-BREF | Compared with healthy people, there was no difference between the QoL of patients with cancer in the social and environmental domains. The QoL of patients with cancer was worse in the physical and psychological domains. Patients with cancer had worse scores in the self-assessment of overall health and QoL. | 6(9) |
| Franceschini et al., 2008[5] | SF-36 | QoL in the SF-36 domains was worse in patients with lung cancer than in healthy patients. | 7(9) |

Comparative cross-sectional studies[5,18] with individuals without cancer revealed a worse QoL among cancer patients.

QoL was evaluated before and after chemotherapy[9,14,26,27] with varying assessment frequencies in patients with cancer stages I to IV.

A study by Saad, Botega and Toro[22] evaluated QoL before surgery and 30, 90 and 180 days later. In the prospective cohort study by Lima et al.[21], QoL was evaluated only six months after pulmonary resection.

The evaluation of patients before and after physical therapy[20] involved advanced stages of cancer (III B or IV).

## DISCUSSION

This review described the characteristics of studies of the QoL of patients with lung cancer, identified the QoL instruments used and explored the methodological aspects of the research, as well as evaluating its quality. The elderly are more affected by lung cancer[2,3], which explains the age of the patients, which was generally over 60 years. Being elderly is a risk factor for lung cancer, with such individuals having a 4.33 times greater chance of having the disease than those at other ages[28]. Greater life expectancy allows sufficient time to develop the disease[29].

The QoL instruments were generic and specific. The generic studies evaluate QoL irrespective of the presence of the pathology. The specific studies analyzed patients with cancer of any type, with lung cancer and with chronic obstructive pulmonary disease.

Eight different instruments evaluated the QoL of patients. The most frequently adopted was specific for people with cancer, EORTC QLQ-C30, although it was used in less than half of the articles. Its LC-13 complementary module was used in two studies[15,26] because it is specific for lung cancer, evaluating QoL for the particular symptoms of this disease. It is therefore recommended to combine these scales.

These instruments are potentially useful because they are based on life and health symptoms and impairments which affect patients. An instrument such as the EORTC QLQ-C30[9,13-17,23,25,26] evaluates fatigue among the symptoms of patients with cancer. In a literature review it was observed that fatigue impacts the QoL of patients with lung cancer. It influences the execution of activities of daily living, relapse of the disease, the reduction of survival and emergency care and hospital admissions. It is highly prevalent and needs to be better evaluated through studies with high levels of scientific evidence[1]. It should be considered that elderly patients usually suffer reduced functional capacity[30-33], which, added to the fatigue caused by the disease[34], may result in greater impairment of activities of daily living and interference in QoL[35-37].

Specific instruments with varying purposes were noted, for example, the evaluation of chemotherapy (Quality of Life Questionnaire for Cancer Patients Treated with Anti-Cancer Drugs (QoL-ACD) and those which featured treatment side effect items. However, it should be emphasized that this instrument would not be suitable for individuals at the initial stage of the disease who are treated by surgical resection. In this situation, generic instruments or those specific for respiratory diseases are recommended. It is the responsibility of researchers to choose the best instrument or to use more than one. In Brazil and in developed countries, about 70% of patients have advanced (stage III) or metastatic (stage IV) lung cancer[39] and it can be inferred that for most studies specific instruments are recommended, since the patients diagnosed would already be living with symptoms and their implications for QoL.

Among the non-specific instruments, the SF-36, used in six studies, is worthy of note. It assesses both the negative (illness/infirmity) and positive (well-being) aspects of health[15]. Generic instruments perform multidimensional health assessment, identifying the ability to perform activities of daily living. Applied at different times, they assess improvement or worsening in physical and emotional aspects. In this sense, generic instruments can be useful for evaluating a certain intervention[40].

However, assessment involves general aspects of life and does not consider disease specificities, such as in the QLQ-LC13, with items for symptoms and the adverse effects of treatment such as coughs, mucositis, alopecia and chest pain[15,26].

The prospective studies assessed QoL, before and after: chemotherapy, physiotherapy or pulmonary resection. They adopted generic and specific instruments. In one study, antineoplastic chemotherapy worsened the physical performance of patients[9]. Also, in the study by Nicolussi et al.[13], cancer and its treatment affected patients in some way, causing deterioration in the functions performed and the presence of more symptoms, impairing QoL. However, improvement in QoL may occur if the side effects of treatments can be avoided and controlled and there is adherence to effective complementary treatments that can assist in coping with the disease and treatment[13].

However, Oliveira et al.[14] found an improvement in QoL and symptoms of dyspnea and hemoptysis after chemotherapy. In the study by Avelino et al.[26], the authors found differences in QoL regarding physical and cognitive capacity during chemotherapy, with improvement and deterioration, respectively. They also observed improvement in pain and loss of appetite. The study by Muller, Silva and Xavier[27] showed no difference in QoL before chemotherapy and 60 and 120 days later. The negative effects of adjuvant chemotherapy on QoL appear to be temporary and improvements are common in most patients[41].

The evaluation of QoL after physical therapy was described in one study, with improvement in physical mobility, pain, energy, emotional aspects and sleep[20]. The results after pulmonary resection are contradictory[21,22], with both deterioration[21] and improvement in QoL[22]. Studies comparing the QoL of people with cancer with healthy individuals[5,18] found a worse overall QoL score for cancer patients in the SF-365 and WHOQoL-BREF[18]. In the latter study[18] there were worse scores in the physical and psychological domains.

Despite the lack of consensus on the type of instrument adopted, evaluations of QoL can be an important tool for guiding health interventions in the affected QoL domains, according to the chosen therapy and clinical evolution of the patient, in a given context.

Regarding the losses in quality of the articles, given the severity of the disease, the most practical way to recruit participants is in the hospital environment, explaining the use of convenience samples. Quality of life is subjective in nature, and it is therefore feasible that the responses to the instruments should be provided by self-assessment. It should be noted that the instruments provide quantitative data in different domains, which is useful in comparing procedures and population groups, supporting decision-making in health care and future investigations.

Limitations of the present study include the fact that the search was carried out only in the VHL and in Portuguese. However, the importance of the regional VHL is highlighted, as it incorporates more than 30 databases, including 14 from Health Sciences, such as Lilacs and Medline. It is important to emphasize that in the VHL, even with descriptors in Portuguese, searches are made for publications in other languages and in other countries. In addition, the VHL is supported by the technical cooperation of the Pan-American Health Organization.

## CONCLUSION

This scoping review identified discrepancies between the prospective studies evaluating quality of life after chemotherapy and pulmonary resection, which found both deterioration and improvement in QoL. The probable causes of this are methodological diversity, with different questionnaires applied across varying treatments and frequency reapplications, and the use of convenience samples of different ages and stages of disease. This does not help when grouping results in meta-analysis, which justifies the use of the scoping review method when exploring publications in terms of the methodological aspects and instruments used.

The results of the comparative cross-sectional studies should be evaluated with caution. They compare diseased and healthy populations and use generic questionnaires, such as the WHOQoL-BREF and SF36. They identified a worse quality of life in the overall score of the instruments for people with cancer. A study with the WHOQoL-BREF also found worse results in the physical and psychological domains, with no differences in the social and environmental domains. This is most likely due to the lack of disease specificity in the questionnaire, which includes domains that evaluate sexual activity and aspects of health care, such as the availability and quality of care, which are commonly affected by the disease; especially in studies with patients in advanced stages.

The choice of generic instruments to evaluate quality of life in patients diagnosed with cancer should not be encouraged, as the disease carries particularities that impact the life of the patients, and this theme can be better evaluated by specific instruments. Such assessment should preferably be complemented with evaluation by specific instruments for people with lung cancer, which consider, in addition to functional, emotional and social aspects, the symptoms associated with lung disease. These instruments better evaluate the impact of lung cancer on the quality of life of the individual.

Further studies with a specific instrument for people with lung cancer are therefore recommended. Prospective studies should also be encouraged, as they allow the evaluation of quality of life at different times. Different cancer modalities should not be grouped together, due to their specificities and possible impairment in different aspects. Methodological homogeneity should be applied, analyzing groups by age, disease stage and treatment modalities, while consensus should be sought among experts regarding the best timing/frequency of the application and reapplication of the instruments.

It is also recommended, where possible, that respondents are randomly selected, as the convenience sample method limits generalizations of the results by restricting the participation of those with advanced physical disability or cognitive impairment, resulting in an overestimation of the quality of life. The exclusion of comorbidities that can influence quality of life should also be considered in future studies.

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