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Quality of Life of Patients with Chronic Obstructive Pulmonary Disease (COPD) as Assessed by the Saint George's Respiratory Questionnaire for Chronic Obstructive Pulmonary Disease (SGRQ-C) at Waled Regional General Hospital in 2024

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Abstract

Chronic obstructive pulmonary disease (COPD) is a heterogeneous lung condition characterized by chronic respiratory symptoms resulting from abnormalities of the airways and/or alveoli. A validated and reliable instrument is required to assess health-related quality of life in patients with COPD. The St George's Respiratory Questionnaire for COPD (SGRQ-C) has been translated and validated in several countries for assessing health-related quality of life in patients with COPD. This study aimed to assess the quality of life of patients with COPD at Waled Regional General Hospital in 2024. This study employed a descriptive observational method with a cross-sectional design. Participants were recruited using a nonprobability consecutive sampling technique, resulting in a total sample of 40 patients. Most respondents were older adults, with 16 patients (40.25%), and the majority were male, with 29 patients (72.5%). Eighteen patients (45%) were former smokers, 12 patients (40%) were classified as heavy smokers, and 21 patients (52.5%) had a normal body mass index. In the symptom domain, 24 patients (60%) had poor quality of life; in the activity domain, 22 patients (55%) had good quality of life; and in the impact domain, 29 patients (72.5%) had good quality of life. Overall, 24 patients (60%) had good quality of life. Most respondents were older adult males and former smokers, with a substantial proportion classified as heavy smokers and more than half having a normal body mass index. Most patients had poor quality of life in the symptom domain, whereas most had good quality of life in the activity and impact domains and overall.

INTRODUCTION

The Global Initiative for Chronic Obstructive Lung Disease (GOLD) defines chronic obstructive pulmonary disease (COPD) as a heterogeneous lung condition characterized by chronic respiratory symptoms, including dyspnea, cough, sputum production, and/or exacerbations, resulting from abnormalities of the airways (bronchitis and bronchiolitis) and/or alveoli (emphysema) that cause persistent, often progressive airflow obstruction (GOLD, 2024).

The World Health Organization (WHO) reported that approximately 3 million deaths worldwide were attributable to COPD in 2016. WHO also reported that countries in Southeast Asia had a moderate-to-severe COPD prevalence among individuals aged >30 years, with an average prevalence of 6.3% (GOLD, 2024; Ministry of Health of the Republic of Indonesia, 2019). The 2018 Riset Kesehatan Dasar (Riskesdas) reported that COPD ranked sixth among the ten leading causes of death in Indonesia, with an average prevalence of 3.7% and the highest

prevalence among individuals older than 30 years (Ministry of Health of the Republic of Indonesia, 2019). In Cirebon Regency, 589 COPD cases were reported in 2018 (Ministry of Health of the Republic of Indonesia, 2019; Astuti et al., 2017).

COPD significantly affects patients' physical, psychological, and social functioning, making the assessment of health-related quality of life (HRQoL) an important component of comprehensive disease management. Quality of life among patients with COPD is influenced by various factors, including disease severity, symptom burden, functional limitations, and psychosocial well-being (Adhikari et al., 2021; Hasaini, 2020). Understanding patients' quality of life enables healthcare providers to evaluate disease burden, assess patients' ability to perform daily activities, and monitor treatment effectiveness (Rizky Agustin et al., 2020). Accurate assessment of quality of life may also provide insight into disease progression and support clinical decision-making (Adiana & the son of INA, 2023).

A validated and reliable measurement instrument is essential for assessing quality of life in patients with COPD. The St George's Respiratory Questionnaire (SGRQ) has been widely translated and validated in several countries for assessing health-related quality of life in patients with respiratory diseases, including asthma, COPD, and bronchiectasis (Monica & Sutanto, 2020; Rehman et al., 2020). Evidence indicates that the SGRQ is a valid instrument capable of distinguishing different levels of health impairment (Erlinda et al., 2020; Rehman et al., 2020). The St George's Respiratory Questionnaire for COPD (SGRQ-C) is a COPD-specific version derived from the original SGRQ following detailed analyses of data from patients with COPD (Jones & Forde, 2016; Loubert et al., 2020). The SGRQ-C is a valid and reliable instrument for assessing health-related quality of life in patients with COPD and comprises three domains: symptoms, activity, and impacts (Jones & Forde, 2016; Nadiya et al., 2023). Each questionnaire item is weighted according to the degree of health impairment associated with the symptom or condition represented (Loubert et al., 2020). SGRQ scores range from 0 to 100, with higher scores indicating greater health impairment and, consequently, poorer health-related quality of life (Nadiya et al., 2023; Pratiwi & Perwitasari, 2017).

Previous research conducted in Stockholm demonstrated that the SGRQ-C had strong and meaningful correlations with other instruments, such as the Clinical COPD Questionnaire (CCQ), supporting its reliability as a health-related quality-of-life measurement instrument in primary healthcare settings (Pratiwi & Perwitasari, 2017; Rehman et al., 2020). The Indonesian version of the SGRQ-C has also been validated and demonstrated adequate reliability for assessing health-related quality of life among Indonesian patients with COPD (Erlinda et al., 2020; Pratiwi & Perwitasari, 2017). Despite the availability of this validated instrument, research specifically conducted in regional hospital settings in Indonesia remains limited, particularly in Cirebon Regency, where COPD represents an important health concern. Furthermore, studies examining all three SGRQ-C domains—symptoms, activity, and impacts—in relation to patient characteristics such as age, sex, smoking status, and body mass index remain scarce in this context.

Several factors have been identified as important determinants of quality of life among patients with COPD. Sex-related differences have been reported, with an overall COPD prevalence of 11.8% among men and 8.5% among women (GOLD, 2024); the higher prevalence among men has been associated with higher smoking rates and greater occupational exposure to risk factors (Indonesian Pulmonology Association [PDPI], 2023; Nadiya et al.,

2023). Smoking exposure demonstrates a dose-response relationship with COPD and can be quantified using the Brinkman Index, calculated from the number of cigarettes smoked per day and the duration of smoking (PDPI, 2023; Umar et al., 2018). Previous studies have shown that smokers have a 2.7-fold greater risk of impaired quality of life than nonsmokers (Asyrofy et al., 2021; Aini et al., 2022). Body mass index (BMI) is also clinically relevant because COPD phenotypes such as emphysema may be associated with weight loss, whereas chronic bronchitis may coexist with obesity (Manian, 2019; Najihah & Theovena, 2022). Age represents another important factor, as COPD prevalence generally increases with advancing age and is particularly high among older adults (>60 years) (Nadiya et al., 2023; Wahyuni et al., 2022).

Understanding the characteristics and quality of life of patients with COPD in regional healthcare settings is important for developing targeted interventions and improving healthcare services. Fazmi et al. (2023) found that 80% of patients with COPD were smokers and that 64% had poor quality of life. Similarly, Mutmainnah (2015) reported that most patients with COPD had poor quality of life (61.97%). However, findings vary across studies and settings, indicating the importance of context-specific investigations. For example, Ferrer et al. (2002) found that older patients sometimes reported better quality of life than other age groups, potentially reflecting adaptation to their condition, whereas other studies have reported different patterns (Adhikari et al., 2021; Hasaini, 2020). These inconsistencies highlight the importance of assessing health-related quality of life within specific patient populations.

Despite the growing body of research on COPD and quality of life, several research gaps remain. Studies conducted in regional hospitals in Indonesia, particularly in Cirebon Regency, remain limited despite the reported burden of COPD in the region (Ministry of Health of the Republic of Indonesia, 2019; Astuti et al., 2017). Moreover, relatively few studies have comprehensively described health-related quality of life across all three SGRQ-C domains—symptoms, activity, and impacts—alongside relevant patient characteristics. Previous studies have also produced varying findings regarding quality of life across demographic and clinical characteristics, indicating the need for context-specific evidence. Addressing these gaps is theoretically relevant for improving understanding of health-related quality of life among patients with COPD and practically relevant for informing patient-centered COPD management and healthcare services in regional hospital settings.

Based on the identified research gaps, this study aimed to assess the health-related quality of life of patients with chronic obstructive pulmonary disease (COPD) at Waled Regional General Hospital in 2024 using the St George's Respiratory Questionnaire for COPD (SGRQ-C). Specifically, the study assessed the symptoms, activity, and impacts domains and the overall SGRQ-C score in relation to patient characteristics, including age, sex, smoking history, degree of smoking exposure based on the Brinkman Index, and body mass index.

METHOD

This study employed a descriptive observational method with a cross-sectional design to assess the quality of life of patients with chronic obstructive pulmonary disease (COPD). Data were collected using the St George's Respiratory Questionnaire for COPD (SGRQ-C) without any intervention.

The study aimed to assess the quality of life of patients with COPD at Waled Regional General Hospital in 2024. The study was conducted at the hospital's pulmonary outpatient

clinic from June to July 2024. Ethical approval was obtained from the Research Ethics Committee of Waled Regional General Hospital (No. 000.9.2/054/KEPK/V/2024).

The study population consisted of patients diagnosed with COPD who attended the pulmonary outpatient clinic at Waled Regional General Hospital, Cirebon Regency. The calculated sample size was 40 respondents. Participants were recruited using a nonprobability consecutive sampling technique.

Data were collected through interviewer-administered questionnaires using the SGRQ-C to assess patients' health-related quality of life.

RESULTS AND DISCUSSION

Respondent Characteristics

The description of respondents' characteristics included: age, gender, smoking status, degree of smoking, and body mass index. More information is presented in table 4 below:

Table 1. Respondent Characteristics

Characteristics	n	%
Age		
Middle age (45-54 years)	13	32,5%
Elderly (55-65 years)	16	40,5%
Young Elderly (66-74 years old)	9	22,5%
Elderly (75-90 years old)	2	5%
Gender		
Male	29	72,5%
Women	11	27,5%
Smoking History		
Non-Smokers	10	25%
Ex-Smoker	18	45%
Smokers	12	27,5%
Degree of Smoking		
Light Smokers (0-199)	8	23,67%
Medium Smokers (200-600)	10	33,33%
Heavy Smokers (>600)	12	40%
Body Mass Index		
Underweight (< 18.5)	15	37,5%
Normal (18.5-22.9)	21	52,5%
Overweight (23-24.9)	4	10%

Source: Primary data collected from COPD patients at Waled Regional General Hospital, June-July 2024

In this study, the characteristics of the research sample at the Waled Hospital polyclinic in 2024 were the age of the elderly (55-65 years) 16 patients (40.25%), with the male gender of 29 patients (72.5%), for the smoking status was 18 patients (45%), for the Brinkman index the most heavy smokers 12 patients (40%), and for the normal body mass index as many as 21 patients (52.5%).

Quality of Life of COPD Patients

The description of the quality of life of COPD patients at the lung polyclinic of Waled Hospital in 2024 based on the SGRQ-C score, can be seen as follows:

Table 2. Quality of life of COPD patients at the lung polyclinic of Waled Hospital 2024

No	Domain	Quality of life	n	%
1	Symptoms	Good	16	40
		Not Good	24	60
2	Activity	Good	22	55
		Not Good	18	45
3	Impacts	Good	29	72,5
		Not Good	11	27,5
4	Overall	Good	24	60
		Not Good	16	40

Source: Primary data from SGRQ-C questionnaire interviews, June-July 2024 (N = 40).

In table 2, the quality of life of patients with chronic obstructive pulmonary disease with a symtomps score of 24 (20%) is more than good compared to a good symtomps score of 16 (13.33%). For the activity score, 22 (18.33%) is good, compared to the negative activity score of 18 (15%). For more impact scores, 29 (24.17%) are good compared to 11 (9.17%) bad impact scores. For the overall score, there are more good 24 (60%) than the bad overall score of 16 (40%).

Table 3. Characteristics of respondents based on SGRQ-C symptom domain

Characteristics	Symptom	
	Good	Not good
	n(%)	n(%)
Age		
Middle age (45-54 years)	3(7,5%)	10(25%)
Elderly (55-65 years)	3(7,5%)	13(32,5%)
Young Elderly (66-74 years old)	5(12,5%)	4(10%)
Elderly (75-90 years old)	0	2(5%)
Gender		
Male	8(20%)	21(52,5%)
Women	3(7,5%)	8(20%)
Smoking History		
Non-Smokers	4(10%)	6(15%)
Ex-Smoker	5(12,5%)	13(32,5%)
Smokers	2(5%)	10(25%)
Degree of Smoking		
Light Smokers (0-199)	2(6,67%)	6(20%)
Medium Smokers (200-600)	2(6,67%)	8(26,67%)
Heavy Smokers (>600)	2(6,67%)	10(33,33%)
Body Mass Index		
Underweight (< 18.5)	3(7,5%)	12(30%)
Normal (18.5-22.9)	8(20%)	13(32,5%)
Overweight (23-24.9)	0	4(10%)

Source: Cross-tabulation of primary data, June-July 2024 (N = 40).

In table 3, the age characteristics with the most good symptom domains are young elderly with 5 patients (12.5%) while the most bad symptom domains are the elderly with 13 patients (32.5%). For gender characteristics with the most good symptom domains, 8 patients were male (20%), while the most bad symptom domains were male 21 patients (52.5%). For the characteristics of smoking history with the most good symptom domains, there were 5 former smokers (12.5%), while the most unfavorable symptom domains were 13 former smokers (32.5%). For the characteristics of the degree of smoking with the good symptom domain, there was the same number of 2 patients (6.67%) in each criterion, while the most bad symptom domains were 10 heavy smokers (33.33%). For the characteristics of the body mass index with the most good symptom domains, the normal BMI was 8 patients (20%), while the most bad symptom domains were normal BMI of 13 patients (32.5%).

Table 4. Respondent characteristics based on SGRQ-C activity domain

Characteristics	Activity	
	Good	Not good
	n(%)	n(%)
Age		
Middle age (45-54 years)	11(27,5%)	2(5%)
Elderly (55-65 years)	7(17,5%)	9(22,5%)
Young Elderly (66-74 years old)	3(7,5%)	6(15%)
Elderly (75-90 years old)	0	2(5%)
Gender		
Male	15(37,5%)	14(35%)
Women	6(15%)	5(12,5%)
Smoking History		
Non-Smokers	7(17,5%)	3(7,5%)
Ex-Smoker	13(32,5%)	5(12,5%)
Smokers	1(2,5%)	11(27,5%)
Degree of Smoking		
Light Smokers (0-199)	7(23,33%)	1(3,33%)
Medium Smokers (200-600)	6(20%)	4(13,33%)
Heavy Smokers (>600)	1(3,33%)	11(36,67%)
Body Mass Index		
Underweight (< 18.5)	6(15%)	9(22,5%)
Normal (18.5-22.9)	14(35%)	7(17,5%)
Overweight (23-24.9)	1(2,5%)	3(7,5%)

Source: Cross-tabulation of primary data, June-July 2024 (N = 40).

In table 4, the age characteristics with the most good domain activity were found to be middle age as many as 11 patients (27.5%) while the most bad activity domains were the elderly with 9 patients (22.5%). For gender characteristics with the most good domain activity, 15 patients were male (37.5%), while the most bad activity domain was male as many as 14 patients (35%). For the characteristics of smoking history with the most good activity domains were former smokers as many as 13 patients (32.5%), while the most bad activity domains were smokers as many as 13 patients (27.5%). For the characteristics of the degree of smoking

with the highest level of good activity, 7 patients (23.33%) were light smokers (23.33%), while the most bad activity domains were 11 patients (36.67%). For the characteristics of body mass index with the most good activity domains, the normal BMI was 14 patients (35%), while the most unfavorable activity domains were underweight BMI 9 patients (22.5%).

Table 5. Characteristics of respondents based on SGRQ-C impact domains

Characteristics	Impact	
	Good	Not good
	n(%)	n(%)
Age		
Middle age (45-54 years)	9(22,5%)	4(10%)
Elderly (55-65 years)	13(32,5%)	3(7,5%)
Young Elderly (66-74 years old)	7(17,5%)	2(5%)
Elderly (75-90 years old)	0	2(5%)
Gender		
Male	22(55%)	7(17,5%)
Women	7(17,5%)	4(10%)
Smoking History		
Non-Smokers	8(20%)	2(5%)
Ex-Smoker	15(50%)	3(7,5%)
Smokers	6(15%)	6(15%)
Degree of Smoking		
Light Smokers (0-199)	8(26,67%)	0
Medium Smokers (200-600)	8(26,67%)	2(6,67%)
Heavy Smokers (>600)	5(16,67%)	7(23,33%)
Body Mass Index		
Underweight (< 18.5)	10(25%)	5(12,5%)
Normal (18.5-22.9)	16(40%)	5(12,5%)
Overweight (23-24.9)	3(7,5%)	1(2,5%)

Source: Cross-tabulation of primary data, June-July 2024 (N = 40).

In table 5, the age characteristics with the most good impact domains are the elderly with 13 patients (32.5%) while the most bad impact domains are the elderly with 4 patients (10%). For gender characteristics with the most good impact domains were male as many as 22 patients (55%), while the most bad impact domains were male as many as 14 patients (17.5%). For the characteristics of smoking history with the most good impact domains were 15 former smokers (50%), while the most bad impact domains were 6 patients (15%). For the characteristics of smoking degrees with the highest good impact domains, there were 8 patients and moderate smokers, while the most bad impact domains were heavy smokers with 7 patients (23.33%). For the characteristics of the body mass index with the most good impact domains, the normal BMI was 16 patients (40%), while the most negative impact domains were underweight BMI and 5 patients (12.5%) were normal BMIs.

Table 6. Characteristics of respondents based on overall SGRQ-C

Characteristics	Overall	
	Good	Not good
	n(%)	n(%)
Age		
Middle age (45-54 years)	8(20%)	5(12,5%)
Elderly (55-65 years)	10(25%)	6(15%)
Young Elderly (66-74 years old)	6(15%)	3(7,5%)
Elderly (75-90 years old)	0	2(5%)
Gender		
Male	18(445%)	11(27,%)
Women	6(15%)	5(12,5%)
Smoking History		
Non-Smokers	6(15%)	4(10%)
Ex-Smoker	13(32,5%)	5(12,5%)
Smokers	5(12,5%)	7(17,5%)
Degree of Smoking		
Light Smokers (0-199)	7(23,33%)	1(3,33%)
Medium Smokers (200-600)	8(26,67%)	2(6,67%)
Heavy Smokers (>600)	3(10%)	9(30%)
Body Mass Index		
Underweight (< 18.5)	10(25%)	5(12,5%)
Normal (18.5-22.9)	12(30%)	9(22,5%)
Overweight (23-24.9)	2(5%)	2(5%)

Source: Cross-tabulation of primary data, June-July 2024 (N = 40).

In table 6, the most good overall characteristics were found to be middle age as many as 11 patients (27.5%) while the most unfavorable overall was the elderly as many as 9 patients (22.5%). For gender characteristics with the most good overalls, 15 patients were male (37.5%), while the most bad overalls were 14 patients (35%). For the characteristics of smoking history with good overalls, the most were 13 former smokers (32.5%), while the most ungood overalls were 13 patients (27.5%) smokers. For the characteristics of smoking degree with good overalls, the most were light smokers as many as 7 patients (23.33%), while the most ungood overalls were heavy smokers as many as 11 patients (36.67%). For the characteristics of body mass index with the most good overalls, the most normal BMI was 14 patients (35%), while the most ungood overall was normal BMI as many as 9 patients (22.5%).

Respondent Characteristics

One of the characteristics of COPD patients is gender which shows more results for men than women. These results are in accordance with the data listed in GOLD (2024), that the overall prevalence of COPD is 11.8% in men and 8.5% in women. And in line with Nadiya et al.'s (2023) research, respondents based on gender showed that male respondents had a higher percentage than women, which was 73%. This dominance is influenced by many factors, one of which is smoking and a greater risk of workplace exposure. Smoking habits in Indonesia tend to be carried out by men compared to women, which is 60-70% (PDPI, 2023).

Until now the exact relationship between sex and the incidence of COPD is still unclear, previous research states that the rate of illness and death due to COPD is more common in men than women, but currently the incidence rate of COPD is almost the same between men and women, related to the increase in the number of female smokers.

The prevalence of chronic obstructive pulmonary disease increases with age, with the highest prevalence being at the age > 60 years. In this study, it is in line with the research of Nadiya et al. (2023) with the results obtained that the most respondents were respondents with the age group of 61-70 years, which was 35.1%. Similar results were also obtained from the research of Andayani, et al. (Wahyuni et al., 2022) which stated that the majority of respondents were in the age group of 60-65 years (47.7%).

Another characteristic of COPD is the degree of smoking. The degree of heavy smoking is suspected to be related to old age in COPD sufferers because elderly smokers have a longer period of consumption as they age, the number of cigarettes consumed will also increase (Umar et al., 2018). Smoking is a risk factor for many metabolic, degenerative, and malignant diseases, so the high prevalence of smokers in Indonesia opens up a higher possibility of developing diseases that cause high mortality and morbidity, especially in the lungs (Wahyuni et al., 2022; Umar et al., 2018). This is in line with a study conducted by Najihah and Theovena (2022) that the smoking degree of COPD patients with the most is the degree of weight based on the Brinkman index, which is 42.1%.

This study differs from Fazmi's (2023) study, eighty percent of respondents are smokers, and sixty-four percent or more are reported to have a low quality of life.

COPD patients tend to experience weight loss and malnutrition. This is due to the imbalance between the energy that enters the body and the energy that enters the body and the energy used. The decrease in food consumption in COPD patients is caused by several things, namely postprandial dyspnea, rapid satiety, weakness and loss of appetite. The occurrence of an increase in energy used is triggered by several factors, namely an increase in breathing effort and a systemic inflammatory reaction. Systemic inflammatory reactions are triggered by the predominant release of pro-inflammatory cytokines in COPD patients.

The results of this study are in line with the research of Nurfachanti, et al. (Fattah et al., 2022) the majority of patients with normal BMI are 37 people (69.8%) and the rest are underweight as many as 11 people (20.8%), overweight 4 people (7.5%) and obese I as many as 1 person (1.9%). This research is also in line with the research of Soemarwoto, et al. (Asyrofy et al., 2021) in the category of normal BMI as many as 98 respondents (58.7%).

Quality of Life of COPD Patients

It is very important to know the quality of life of COPD patients. This is because knowing the quality of life of COPD patients allows us to take into account the burden caused by the disease they suffer from and find out how well they are able to do their activities. Accurately measuring quality of life helps to understand disease processes. Therefore, it is necessary to conduct a quality of life examination of COPD patients (Rizky Agustin et al., 2020).

SGRQ-C is a shorter version derived from the original version after a detailed analysis of data from large studies on COPD. Previous research conducted in Stockholm showed that the SGRQ-C questionnaire had a strong and meaningful cross-correlation with other questionnaires such as the Clinical COPD questionnaire (CCQ) (Pratiwi & Perwitasari, 2017). This shows that SGRQ-C is a good quality of life measurement tool and can be used in primary health care centers (Rehman et al., 2020). Several factors such as the severity of the disease, the patient's clinical symptoms and anxiety can affect the results of quality of life

measurements. So that the patient's quality of life can be estimated from the severity of the disease, anxiety and clinical symptoms (Rehman et al., 2020; Pratiwi & Perwitasari, 2017).

Part 1 (Questions 1-7) addresses the frequency of respiratory symptoms. This tool is not designed to be an exact epidemiological tool, but to assess patients' perceptions of the respiratory problems they are currently experiencing.[5,17] Part 2 (Questions 8-14) discusses the patient's current state (i.e. how he or she is currently doing). Activity scores measure disruption to daily physical activity. The Impact score includes a series of impairments of psychosocial functioning.

In this study, the majority of symptom domains with poor quality of life were found as much as 60%, which can be concluded that the patients obtained have severe symptoms (Rehman et al., 2020; Jones & Forde, 2016). The majority of activity domains as much as 55% with good quality of life and 72.5% impact domains with good quality of life, which can be concluded that daily activities are still good and also psychosocial functions are still good such as doing daily tasks and interacting with others (Rehman et al., 2020; Jones & Forde, 2016). The majority of the Overall score or the total score with good quality of life (60%). This is different from Muthmainnah's (2015) research which stated that most COPD patients have a poor quality of life (61.97%).

The SGRQ-C questionnaire is a questionnaire developed on patients who do not only stay at home. This can lead to ambiguous answers because COPD patients with severe severity will tend to reduce activities outside the home (Muthmainnah, 2015; Astuti et al., 2017). This questionnaire is very subjective, can be influenced by various things including economic and comorbid conditions. Economic conditions cause patients with severe symptoms to continue to carry out their daily activities and tasks as usual (Muthmainnah, 2015). Comorbid conditions including congestive heart disease, other cardiovascular diseases and a history of stroke can also affect poor quality of life outside of COPD conditions (Astuti et al., 2017).

One of the things that affects the quality of a person's life is characteristics. A person's characteristics can affect the pattern and quality of a person's life (Muthmainnah, 2015). Characteristics can be seen from several points of view such as age, in this study there are 3 domains of quality of life and overall (total score), for the majority of age characteristics are bad symptoms in the elderly as much as 32.5% and good impact in the elderly as much as 32.5%. It is not surprising that many individuals from the elderly group may suffer from respiratory diseases and/or other chronic conditions. In Ferrer et al.'s (2002) research, stated that the elderly have a higher quality of life than other categories. The elderly have experienced a decline in their bodily functions and often experience limitations in carrying out activities based on their body condition. The impact of this has an impact on the decline in their quality of life (Ferrer et al., 2002).

The next characteristic is gender. In this study, the most quality of life was the category of men with good quality of life in activity, impact, and overall, but there was a difference in the domain of the most symptoms, namely the category of men with poor quality of life 21 patients (52.5%). This is in line with the research of Ferrer et al. (2002) stating that the majority of male symptom scores have a bad quality of life, women have a better quality of life than women. In line with Muthmainnah's (2015) research for the overall value of good or bad quality of life, there is an equation where there are more men than women. This can be due to the prevalence of smoking more in men than women. Other factors can be influenced because of

men's duties as the head of the family that cause him to work inside and outside the home who are often in contact with COPD risk factors, such as farmers, mine workers and so on.

The next characteristic is smoking history, this study shows that the frequency of each domain and overall is the most in the category of smokers with poor quality of life and former smokers with good quality of life. COPD patients have a 2,702 greater risk of loss of quality of life than COPD patients who do not smoke based on Rini's research in 2011. In line with Asyrofy et al.'s (2021) research, it was found that most of the quality of life of COPD patients who smoke was in poor condition by 34%.

According to PDPI (2023), the relationship between cigarettes and COPD shows a dose response relationship. This relationship can be seen from the brinkman index, which is the amount of cigarette consumption per day multiplied by the number of years of smoking in a year proportional to the risk of COPD. The Brinkman index is a reference for looking at the degree of smoking. In this study, the majority of symptom domains with poor quality of life were found in 10 (33.33%) heavy smokers, while the activity domain with poor quality of life was found in 11 (36.67%) heavy smokers, in the impact domain with good quality of life in mild and moderate with about 8 (26.7%) patients each, and for the most overall was poor quality of life in 9 (30%) patients. This is in line with Ferrer et al.'s (2002) research, which stated that the majority of poor quality of life occurs in heavy smokers in each domain. Supported by the results of the study, Rosha stated that COPD patients who still smoke to a very heavy degree can worsen the quality of life in COPD patients. Hassan's research (Aini et al., 2022) states that quitting smoking can improve quality of life.

There are two phenotypes of COPD that are related to body mass index, namely emphysema and chronic bronchitis. A characteristic of chronic bronchitis is obesity, which contributes to a higher BMI. This obesity can be caused by poor diet, lack of physical activity, or side effects from medication (Manian, 2019). Meanwhile, the characteristic of emphysema is experiencing significant weight loss. This is due to several factors, including increased breathing effort and higher calorie consumption to breathe (Manian, 2019). In this study, the overall score of underweight BMI was not good as many as 5 patients (12.5%) with the most domain, namely the bad symptom domain of 12 patients (30%). It is likely that the patient already includes the emphysema phenotype, where the BMI is characterized by a lower than normal BMI (GOLD, 2024; Salad, 2022).

At the overall value, BMI Overweight with good or bad quality of life there was an equation of 2 patients (5%) with the majority of symptom domains with poor quality of life as many as 4 patients (10%). For overweight BMI as a characteristic phenotype of chronic bronchitis and symptoms are more pronounced. Factors that cause other than phenotype are complications of chronic diseases that make the BMI go down or up (Fazmi et al., 2023). In this study, the majority of the 3 domains and the most overall were normal BMI with good quality of life, although the symptomatic domain had the most poor quality of life. Symptoms are not good, can be caused by COPD phenotypes, comorbidities or complications in patients. This is in line with Nurfachanti's research (Fattah et al., 2022) based on the BMI of COPD patients, the majority of normal BMI with good quality of life is due to the fact that the patient is in a stable state and only comes for control and no decrease in appetite may also be the cause of no weight loss so that normal BMI is obtained in COPD patients.

CONCLUSION

Based on the findings regarding the quality of life of patients with COPD assessed using the St George's Respiratory Questionnaire for COPD (SGRQ-C) at Waled Regional General Hospital in 2024, most respondents were older adults (40.25%) and male (72.5%). Regarding smoking history, 45% were former smokers, while 40% were classified as heavy smokers based on the degree of smoking exposure. More than half of the respondents (52.5%) had a normal body mass index (BMI). In the symptoms domain, 60% of respondents had poor health-related quality of life, with this pattern predominantly observed among older adults, men, former smokers, heavy smokers, and respondents with a normal BMI. In the activity domain, 55% had good health-related quality of life, predominantly among older adults, men, smokers, heavy smokers, and respondents with an underweight BMI. In the impacts domain, 72.5% had good health-related quality of life, predominantly among middle-aged adults, men, smokers, heavy smokers, and respondents with an underweight BMI. Overall, 60% of respondents had good health-related quality of life, with this pattern predominantly observed among older adults, men, smokers, heavy smokers, and respondents with a normal BMI.

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