

# Contents

Subjects	Page
List of abbreviations.....	II
List of Figures .....	IV
List of Tables .....	VI
• <b>Introduction</b> .....	1
• <b>Aim of the work</b> .....	3
• <b>Review of Literature</b>	
♦ Historical remarks .....	4
♦ Epidemiology.....	5
♦ Definition and terminology .....	8
♦ Etiology and risk factors for COPD .....	15
♦ Pathogenesis, Pathology and Pathophysiology .....	29
♦ Diagnosis of COPD.....	36
♦ Management.....	55
♦ Questionnaires: a first-line screen to diagnose COPD.....	59
• <b>Subjects and Methods</b> .....	66
• <b>Results</b> .....	82
• <b>Discussion</b> .....	105
• <b>Summary and Conclusion</b> .....	121
• <b>Recommendations</b> .....	125
• <b>References</b> .....	127
• <b>Arabic Summary</b>	

Abbreviation	Meaning
<b>AHR</b>	Airway Hyperresponsiveness
<b>AUC</b>	Area Under the ROC Curve
<b>ATS</b>	American Thoracic Society
<b>BTS</b>	British Thoracic Society
<b>COAD</b>	Chronic Obstructive Airway Disease
<b>COPD</b>	Chronic Obstructive Pulmonary Disease
<b>CI</b>	Confidence Interval
<b>DL<sub>CO</sub></b>	Diffusion capacity of the lung for carbon monoxide
<b>EGFR</b>	Epidermal growth factor receptor
<b>ERS</b>	European Respiratory Society
<b>FEV<sub>1</sub></b>	Forced expiratory volume in 1 second
<b>FVC</b>	Forced Vital Capacity
<b>GOLD</b>	Global Initiative for Chronic Obstructive Lung Disease
<b>ICS</b>	Inhaled Corticosteroids
<b>LFQ</b>	Lung Function Questionnaire
<b>LLN</b>	Lower Limit of Normal
<b>MRC</b>	Medical Research Council
<b>NHANES</b>	National Health And Nutrition Examination Survey
<b>P<sub>i</sub></b>	Phase inhibitor
<b>ROC</b>	Receiver Operator Characteristic
<b>SD</b>	Standard deviation
<b>t</b>	Student's test

## *List of Abbreviations*

“.....”

<b>V<sub>A</sub>/Q</b>	Alveolar Ventilation-To-Perfusion ratio
<b>VC</b>	Slow Vital Capacity
<b>WHO</b>	World Health Organization
<b>(<math>\alpha</math>1-AT)</b>	Alpha 1-antitrypsin

“.....”

## List of Figures

<b>No.</b>	<b>Figure</b>	<b>Page</b>
<b><u>1</u></b>	The Lung Function Questionnaire.	<b>69</b>
<b><u>2</u></b>	Smart <i>pft</i> USB (PC-based spirometer).	<b>71</b>
<b><u>3</u></b>	Normal flow volume curve.	<b>73</b>
<b><u>4</u></b>	Patterns of ventilator abnormalities.	<b>75</b>
<b><u>5</u></b>	Comparison between obstructive and non-obstructive healthy smokers as regard: age, weight, height and BMI.	<b>87</b>
<b><u>6</u></b>	Comparison between both groups as regard MEF25-75.	<b>88</b>
<b><u>7</u></b>	Comparison between both groups as regard smoking index.	<b>89</b>
<b><u>8</u></b>	Comparison between both groups as regard MMRC dyspnea scale.	<b>90</b>
<b><u>9</u></b>	Comparison between both groups as regard the five items of LFQ.	<b>91</b>
<b><u>10</u></b>	Comparison between both groups as regard the total score of LFQ showing statistical difference with p-value <0.001.	<b>92</b>
<b><u>11</u></b>	The prevalence of COPD in the studied sample.	<b>94</b>
<b><u>12</u></b>	Comparison between both groups as regard: age, weight, height and BMI.	<b>97</b>
<b><u>13</u></b>	Comparison between both groups as regard prebronchodilator FEV1/FVC.	<b>98</b>
<b><u>14</u></b>	Comparison between both groups as regard MEF25-75.	<b>98</b>
<b><u>15</u></b>	Comparison between both groups as regard smoking index.	<b>99</b>
<b><u>16</u></b>	Comparison between both groups as regard MMRC dyspnea scale.	<b>99</b>



## List of Figures

<b><u>No.</u></b>	<b><u>Figure</u></b>	<b><u>Page</u></b>
<b><u>17</u></b>	Comparison between both groups as regard the items of LFQ.	<b>100</b>
<b><u>18</u></b>	Comparison between both groups as regard the total score of LFQ.	<b>100</b>
<b><u>19</u></b>	The ROC curve for the model of all items of modified LFQ.	<b>104</b>

## List of Tables

<b><u>No.</u></b>	<b><u>Table</u></b>	<b><u>Page</u></b>
<b><u>1</u></b>	Key Indicators for Considering a Diagnosis of COPD.	<b>38</b>
<b><u>2</u></b>	Considerations in Performing Spirometry.	<b>49</b>
<b><u>3</u></b>	COPD and its Differential Diagnoses.	<b>53</b>
<b><u>4</u></b>	Classification of Severity of Airflow Limitation in COPD.	<b>54</b>
<b><u>5</u></b>	Descriptive analysis of studied persons.	<b>82</b>
<b><u>6</u></b>	Responses of the studied sample to the items of the modified Lung Function Questionnaire.	<b>84</b>
<b><u>7</u></b>	Comparison between a group of patients with obstructive element (50 COPD + 15 smokers) and another group of non-obstructive healthy smokers (35) as regard demographic data, clinical characteristics and responses to modified LFQ.	<b>85</b>
<b><u>8</u></b>	Number and percent regarding Prebronchodilator FEV1/ FVC within the 50 smokers group.	<b>93</b>
<b><u>9</u></b>	Comparison between the newly diagnosed COPD cases (15) and the healthy smokers (35) within the smokers group (50) as regard demographics, clinical characteristics and responses to modified LFQ.	<b>95</b>
<b><u>10</u></b>	Logistic regression of the five items of modified LFQ.	<b>101</b>

## *List of Tables*

<b><u>No.</u></b>	<b><u>Table</u></b>	<b><u>Page</u></b>
<b><u>11</u></b>	The ROC curve of the scoring of the five items of the modified LFQ.	<b>102</b>
<b><u>12</u></b>	Performance of modified LFQ score in identifying patients with airflow obstruction with area under the ROC curve = 0.79%.	<b>103</b>
<b><u>13</u></b>	Several screening questionnaires for COPD and their properties.	<b>105</b>



---

# Introduction

---







---

# **Aim of the Work**

---





---

# **Review of Literature**

---





---

# **Subjects and Methods**

---





---

# Results

---





---

# Discussion

---





---

# **Summary and Conclusion**

---





---

# **Recommendations**

---

