Symptoms of anxiety and depression in patients with chronic obstructive pulmonary disease

Ljudmila M. Nagorni Obradovic[1,2a], Dragica P. Pesut[1,2a], Dragana Maric[1,2a], Jovana Maskovic[2], Nadja P. Maric[1,2b], Marija Mitic Milikic[1,2a]

1. School of Medicine University of Belgrade; 2. Clinical Centre of Serbia, [a]Teaching Hospital of Lung Diseases, Belgrade; Clinical Centre of Serbia, [b]Teaching Hospital of Psychiatry, Belgrade, Serbia

ABSTRACT

Introduction: *Despite the prevalence and importance of anxiety and depressive symptoms in chronic obstructive pulmonary disease (COPD) patients, procedures for routine screening in therapeutic protocols are not commonly used.* ***Objective:*** *to assess the symptoms of anxiety and depression in COPD patients and to evaluate their relation to patients' demographic parameters and clinical characteristics.* ***Methods:*** *The research included 40 COPD patients, treated at the Institute of Lung Diseases and Tuberculosis, Clinical Centre Serbia in Belgrade, from November 2010 to February 2011. Study data were assessed by the questionnaire designed for the purposes of the present study together with Hamilton Anxiety Rating Scale (HARS) and Hamilton Depression Rating Scale (HDRS).* ***Results:*** *Mean HARS score was 10.7 (SD=6.5) (22.5% subjects scored≥17) and mean HDRS score was 10.7 (SD=8.2) (20.0% subjects scored ≥17). Depression was significantly higher in women (Z=-1.971: p=0.049). Lower value of forced expiratory volume in one second (FEV1) correlated with higher HDRS score (ρ=-0.321; p=0.042). The incidence of anxiety and depression symptoms is higher in patients with more hospitalizations and longer hospital stay.* ***Conclusion:*** *The prevalence and importance of anxiety and depressive symptoms in COPD patients require implementation of a specific questionnaire as the procedure for routine screening in order to detect affective symptoms early and to prevent the progression.*

Keywords: *COPD, anxiety, depression, screening, prevention*

REZUMAT

Simptomele de anxietate şi depresie la bolnavii cu bronhopneumopatie cronică obstructivă

Introducere: *Deşi anxietatea şi depresia sunt simptome importante şi cu o prevalenţă mare la pacienţii cu bronhopneumopatie cronică obstructivă, nu se efectuează în mod curent proceduri de screening pentru aceste manifestări în protocoalele terapeutice.* ***Obiectiv:*** *evaluarea prezenţei anxietăţii şi depresiei la pacienţii cu BPOC şi stabilirea relaţiei lor cu parametrii demografici si caracteristicile clinice ale pacienţilor.* ***Metodă:*** *Cercetarea a inclus 40 de pacienţi cu BPOC, trataţi la Institutul de Boli Pulmonare şi Tuberculoză, Centrul Clinic Serbia, Belgrad, din noiembrie 2010 până în februarie 2011. Datele studiului au fost obţinute printr-un chestionar conceput în acest scop, împreună cu Hamilton Anxiety Rating Scale (HARS) şi Hamilton Depression Rating Scale (HDRS).* ***Rezultate:*** *Scorul mediu HARS a fost de 10,7 (SD = 6,5) (22,5% subiecţi au avut scor ≥ 17) şi scorul mediu HDRS a fost de 10,7 (SD = 8.2) (20,0% subiecţi au avut scor ≥ 17). Depresia a fost semnificativ mai mare la femei (Z = -1.971: p = 0,049). Valoarea mai mică a volumului expirator maxim într-o secundă (VEMS) a fost corelată cu scor mai mare HDRS (ρ = -0.321, p = 0.042). Incidenţa simptomelor de anxietate şi depresie este mai mare la pacienţii cu mai multe spitalizări şi durată mai lungă de spitalizare.* ***Concluzie:*** *Prevalenţa şi importanţa simptomelor de anxietate şi depresie la pacienţii cu BPOC necesită punerea în aplicare a unui chestionar specific ca procedură de screening de rutină, în scopul de a detecta precoce simptomele afective şi de a preveni progresia lor.*

Cuvinte-cheie: *BPOC, anxietate, depresie, screening, prevenţie*

Introduction

Chronic obstructive pulmonary disease (COPD) is characterized by chronic air-flow limitation, which is not completely reversible, progressive course and characteristic pathophysiologic changes in the lungs[1]. COPD is one of the most frequent causes of morbidity, reduced life quality and mortality in elderly[2]. It is often followed by comorbidity[3]. Two frequent and not enough recognized and treated comorbidity disorders are anxiety and depression[4]. Anxiety and depression in COPD have significant influence on the patients, their families, society and the course of the disease[4]. Appearance of anxiety and depression represent very important parameters for estimation of life quality in patients with COPD no less important than patients' pulmonary function[5]. The aim of the study was to discover frequency of anxiety and depression symptoms in patients with COPD, as well as association of mentioned emotional disturbances with patients' demographic and clinical characteristics.

Method

Study group

Forty successive patients diagnosed with COPD[6] and treated at the Institute of Lung Disease and Tuberculosis, Clinical Center Serbia in Belgrade, Serbia; from November 2009 to February 2010 were involved[6]. Criteria for patients' inclusion in the study were: 1. Diagnostic criteria for COPD: $FEV_1/FVC<70\%$ and reversibility at β-agonist less than 15% (200 mL) and 2. Patient's approval.

Criteria for patients' exclusion from the study were: 1. Existence of the other chronic respiratory or inflammatory disease and 2. Previous psychiatric disease in personal history.

Contact: Prof. Dragica P. Pesut, MD, PhD; School of Medicine University of Belgrade; Teaching Hospital of Lung Diseases; Visegradska 26; 11000 Belgrade; Serbia; e-mail: dragica.pesut@gmail.com

Degree of COPD was determined by Global Strategy for Diagnosis, Management and Prevention of Chronic Obstructive Pulmonary Disease (GOLD) criteria[6]: a) mild: FEV1 ≥ 80%; medium: 50% ≤ FEV1 < 80%; severe: 30% ≤ FEV1 < 50%; very severe: FEV1 < 30%, or FEV1 < 50% with chronic respiratory failure.

The scales

Basic clinical and demographic patients' characteristics have been collected by the questionnaire created for this study. In addition to this, Hamilton scale for estimation anxiety (HARS)[7] and Hamilton scale for estimation of depression (HDRS)[8] were applied in all the patients with COPD. Mentioned scales are used for almost half of the century and today are considered as gold standard for quantification of the symptoms of anxiety and depression intensity, while diagnosis of these disturbances is set with official diagnostic criteria. The both scales are interviewer administered and rated measured. The Hamilton Anxiety rating Scale is a 14-item test used to assess the severity of anxiety symptoms. It provides measures of overall anxiety, psychic anxiety (mental agitation and psychological distress), and somatic anxiety (physical complaints related to anxiety). The HARS is administered by a trained interviewer who asked a semi- structured series of questions related to symptoms of anxiety. The interviewer then rated the individuals on a five point scale for each of a 14 items. Seven of the items specifically address psychic anxiety and remaining seven address somatic anxiety. For the 14 items, the values on the scale range from zero to four: zero means that there is no anxiety, one indicated mild anxiety, two indicate moderate anxiety, three indicate severe anxiety, and four indicate very severe or grossly disabling anxiety. The total anxiety score ranges from 0 to 56 scores between 0 to 9 indicated absence of anxiety, scores between 10-17 indicated mild anxiety, scores between 18 to 24 indicated mild to moderate anxiety, scores between 25 to 31 indicate moderate to marked anxiety, and scores over 31 indicated severe anxiety [9,10]. The Hamilton depression Rating Scale (HDRS) is a test measuring the severity of depressive symptoms. Besides the interview with the depressed patients, other information can be utilized in formulating rating such as information gathered from family, friends and patients records. In the 21-item version, 11 items were scored on a five-point scale, ranging from 0 to 4. A score of 0 represents the absence of the depressive symptoms being measured, a score of 1 indicates doubt concerning the presence of the symptom, a score of 2 indicates mild symptoms, a score of 3 indicates moderate symptoms, and the score of 4 represents the presence of severe symptoms. The remaining of 10 items are scored on three-point scale, from 0 to 2, with 0 representing absence of symptoms, 1 indicating doubt that the symptom is present, and 2 representing clear presence of symptom. For the 21-item version, scores can range from 0 to 64. One formulation suggests that scores between 0 to 7 indicate the normal person regard to depression, scores between 8 and 13 indicate mild depression, scores between 14 and 18 indicate moderate depression, scores between 19 and 22 indicate marked depression and scores over 22 indicate severe depression.

Statistical analysis

Data were elaborated by descriptive and analytic statistic methods. Kolmogor-Smirnov test was used for investigation of distribution normality. Student T tests and Mann Whitney test were used for estimation of differences significance. Pearson coefficient of correlation and Spearman coefficient of range correlation were used for investigation of connection. Statistically significant differences included $p<0.05$, whereas highly significant differences $p<0.01$. Data were elaborated in the programme SPSS for Windows version 16.0.

Results

COPD patients' average age at the moment of investigation was 68.8±8.4 years and the average age at the moment of establishing the diagnosis of COPD was 57.9 ±10.8. Average duration of the disease was 8.8 ±7.0 years. The patients' socio-demographic characteristics are showed in Table I.

Spirometric investigation was done in 36/40 patients, who were able to perform the testing and the results are showed in Table II.

Medium values of forced predicted and actual vital capacity (FVC) were 3.3±0.7 L (predicted value) and 2.1±0.7 L (64.8±1.7%) actual value.

Average value of predicted forced expiratory volume in first second (FEV_1) expressed in liters was 2.6±0.5 while average actual value was 0.8±0.4L (33.7±1.3%). Average value FEV_1 /FVC was 41.4±1.1.

Table I. Patients' socio-demographic characteristics (N=40)

Sex	Male	28 (70%)
Age (years)		68.8±8.4
Place of residence	Rural	10 (25%)
	Urban	30 (75%)
Education	No school/Primary school	7 (17.5%)
	Secondary School	22 (55%)
	High School, University Degree	11 (27.5%)
Employment		3 (7.5%)
Married		28 (70%)
BMI (kg/m^2)		22.8±4.2
Tobacco smoking status	Active smoker	14 (35%)
	Former smoker	22 (55%)
	Non smoker	4 (10%)
Smoking severity (pack/year)		45.8±18.0

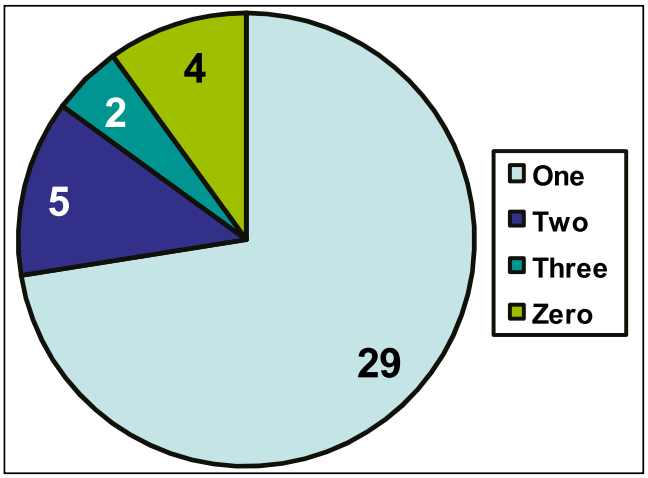
BMI = Body Mass Index

Table II. COPD patients' spirometry test results

Variable	Predicted, L	Actual, L(%)
FVC	3.31±0.67	2.04±0.67 (64.85±1.75)
FEV1	2.62±0.52	0.85±0.37 (33.74±1.33)
FEV1/FVC	41.37±1.04	

FEV1 - forced expiratory volume in the first second
FVC - forced vital capacity

Figure 1. Frequency of hospitalization in 40 patients with COPD



According to severity of COPD according to spirometric results, patients were separated in three groups: three (7.5 %) patients had mild to medium degree of disease severity, 16 (40%) had severe degree, and 21 (52.5%) had very severe degree of the disease.

Arterial blood respiratory gas analysis was performed in all the patients. Average value of hemoglobin oxygen saturation (SaO_2) was 86%. Arterial blood oxygen partial pressure ($PaO_{2)}$ was 7.2±1.3kPa on average, and for carbon dioxide ($PaCO_{2)}$ it was 6.3±1.1kPa.

More than a quarter of patients (27.5%) had frequent exacerbations (four and more in year), whereas 29 (72.5%) patients had rare deteriorations (less than three a year).

Patients had 17.1±21.2 average hospital days in previous 12 months. The frequency of hospitalizations is shown at Figure 1.

Average score of HARS was10.7±6.5 (22.5% patients had score ≥17), while HDRS was 10.7±6.5 (22.5% patients had score ≥17). No correlation in stage of the disease, intensity of anxiety, and depression symptoms was found (degree of disease and anxiety ρ=0.216; p=0.18; degree of disease and depression ρ=0.150; p=0.35).

Intensity of anxiety and depression symptoms was not connected with socio-demographic parameters (p>0.05) as age (anxiety r= -0.081; p=0.61; depression ρ= -0.076; p=0.64), living place (anxiety t= -1.183; p=0.24; depression Z= -0.816; p=0.41), occupation (anxiety t= -0.465; p=0.64; depression Z= -0.954; p=0.34), marriage status (anxiety t= -1.260; p=0.21; depression Z= -1.556; p=0.12), education (anxiety ρ= -121; p=0.45; depression ρ= -0.08; p=0.63).

Significant correlation was found between sex and results of HDRS (Z= –1.971, p=0.049) which instructed at significantly higher depression in female with COPD (HDRS in female=14, HDRS in male=7). There was not significant connection between sex and HARS (T= -1.428, df =38, p=0.162).

Table III. Correlation between anxiety symptoms and COPD duration, number of hospitalizations and hospitalization duration (days)

Variable	ρ	p
COPD duration	0.299	0.061
Number of hospitalizations	0.362	0.015*
Hospitalization duration (days)	0.321	0.044*

** Statistically significant*

Table IV. Correlation between anxiety symptoms and BMI, spirometry test parameters and blood gas analysis parameters

Variable	r	p
BMI(kg/m^2)	-0.116	0.474
FEV1 (L, actual)	-0.222	0.207
FEV1 (%, actual)	-0.243	0.148
FEV1/FVC	0.028	0.873
SaO2	0.076	0.644
PaO2	0.058	0.728
PaCO2	-0.149	0.367

BMI - body mass index
FEV1 - forced expiratory volume in the first second
FVC - forced vital capacity
PaCO2 - partial pressure of carbon dioxide
PaO2 - partial pressure of oxygen
SaO2 – oxygen saturation

We have not confirmed the influences of anxiety and depression symptoms intensity on degree of disease and frequency of exacerbation {degree of disease (anxiety t= -1.548; p=0.13; depression Z=-1.313; p=0.18); frequency of exacerbation (anxiety t=1.334; p=0.19; depression Z= -1.637; p=0.09)}. Correlation of clinical parameters (spirometric, arterial blood respiratory gases analysis, duration of disease, number of hospitalizations and hospitalization duration in days) and score of anxiety and depression symptoms are presented in Tables III, IV, and V.

Significantly higher HARS and HDRS (anxiety ρ=0.362; p=0.01 and depression ρ=0.460; p=0.003) values were registered in patients who had more both hospitalizations and hospital days (anxiety ρ=0,321; p=0.04 and depression ρ=0,435; p=0.005). Besides that, in patients who had lower actual values of FEV_1, symptoms of depression were more marked (ρ= -0,351; p=0.04).

Discussion

The results of our study showed that high level of depression symptoms was apparent in women with COPD, in patients with decreased values of actual FEV_1 level, and in patients who had more hospitalizations and more days of hospital treatment. On the other side, anxiety was equally present in both sexes, whereas was also increased with number of hospitalizations and days of hospital treatment.

Table V. Correlation between depression symptoms and COPD duration, number of hospitalizations, hospitalization duration (days), BMI, spirometry test parameters, and blood gas analysis parameters

Variable	ρ	p
COPD duration	0.277	0.084
Number of hospitalizations	0.460	0.003**
Hospitalization duration (days)	0.435	0.005**
BMI(kg/m^2)	-0.038	0.818
FEV1 (L, actual)	-0.351	0.042*
FEV1 (%, actual)	-0.243	0.148
FEV1/FVC	-0.055	0.750
SaO2	-0.099	0.548
PaO2	-0.084	0.613
PaCO2	-0.069	0.750

BMI - body mass index
FEV1 - forced expiratory volume in the first second
FVC - forced vital capacity
PaCO2 - partial pressure of carbon dioxide
PaO2 - partial pressure of oxygen
SaO2 – oxygen saturation

Investigation showed that there was no correlation between values of arterial blood respiratory gases and detected psychological symptoms, degree of the disease, frequency of COPD exacerbations and score results in scale for anxiety and depression evaluation.

Females with COPD in our study had more severe depression symptoms. Chavannes et al.[11] reported similar results achieved by means of Beck Depression Inventory (BDI) scale in 147 patients with mild to medium degree of COPD. In the mentioned study, females with COPD had 4.8 times more frequently registered depression symptoms than males[11].

In our study, depression symptoms are more frequent in women with COPD, but similar proportion of the symptoms was found in general population of Serbia[12]. The other epidemiologic study confirmed this as well[11]. A Spanish study on 10,000 COPD patients showed that women were younger and smoked less than men, whereas they had more comorbidities and worse quality of life than men although they had mild degree of the disease[13]. It is the reason for careful screening the patients with COPD from the early period, because it is better to prevent clinical expression of depression than to treat it with severe degree of depression symptoms. Enrollment of COPD patients in the programs of pulmonary rehabilitation has also been shown to be beneficial in the prevention of anxiety and depression symptoms, especially in the elderly[14].

Our study showed that there was no significant correlation between existence of anxiety and depression symptoms and duration of disease. Our previous research on illness perception in COPD patients[15] has shown the highest item-related scores for treatment control and illness duration. This latter is suggestive of COPD patients' understanding of illness long term duration, its chronicity, and may serve as an explanation why the duration itself is not associated to neither anxiety or depression symptoms in COPD patients.

Some studies reported connections between frequency of COPD exacerbation and appearance of anxiety and depression symptoms[1]. Our investigation did not confirm that association, whereas we confirmed that patients with high level score of HARS and HDRS had significantly more hospitalizations and hospitalization duration (days). The last issue is equal to data in literature, which detected that disturbances like anxiety[16] and depression[17,18] are predictors for intensive using of health care and high level of total medical payment.

Investigating connection results of spirometric analysis and symptoms of emotional dysfunctions, we registered that patients with lower values of actual FEV_1 had more marked depression. Van Manen et al. reported similar results on a larger sample size of COPD patients and by means of Center for Epidemiologic Studies Depression Scale (CES-D)[19]. Study showed 2.5 times more frequent depression in patients with severe degree of COPD ($FEV_1 < 50\%$) comparing with control group.

Anxiety and depression frequently appear in COPD patients. They have appeared in the moderate degree in every fifth patient in our series while the frequency is reported to vary in other studies from 25% to 80% [12,19-25]. This variation range is most probably methodology dependent: using of different scales, absence of unique questionnaire, differences in the intensity of lung function impairment in studied patients etc.[4] An important fact should be highlighted: both anxiety and depression in COPD patients often remain non recognized and not treated. Possible causes for these are: a) similarities of some symptoms of anxiety, depression and COPD (fatigue, insomnia, loss of appetite), b) lack of routine screening for these disturbances; c) patients often tend to deny anxiety and depression symptoms due to fear of stigmatization[3].

Conclusion

Anxiety and depression symptoms are frequent in COPD patients. Our study results showed that the symptoms' intensity is higher in patients with larger number of hospitalizations, overall days spent in hospital and lower actual values of FEV_1

Table VI. Patients' anxiety and depression scores, by HARS and HDRS scales

HARS		HDRS	
Score	**N (%)**	**Score**	**Percent (%)**
Without (0-9)	19 47.5	Without (0-7)	22 55
Mild (10-17)	16 40	Mild depression (8-13)	5 12.5
Mild to moderate (18-24)	4 10	Moderate (14-18)	8 20
Moderate to marked (25-31)	1 2.5	Marked (19-22)	2 5
Severe (>31)	0 0	Severe (>23)	3 7.5
Total number of patients	40	Total number of patients	40

HARS= Hamilton Anxiety Rating Scale; HDRS= Hamilton Depression Rating Scale

compared to predicted ones. Although the awareness on the prevalence and importance of anxiety and depression symptoms in COPD patients in increasing, these disturbances are still not recognized and treated enough. Development of a unique questionnaire and its implementation in routine practice with COPD patients would be of utmost clinical importance for early assessment of affective status and prevention of the comorbidities.

Acknowledgements

The work is supported by Ministry of Science and Technology Development of Serbia through contracts No ON 175081 and 175095, 2011-2014.

Conflict of interests

The authors declare no conflict of interests.

References

1. Quint JK, Baghai-Ravary R, Donaldson GC, Wedzicha JA. Relationship between depression and exacerbations in COPD. *Eur Resp J* 2008; 32(1): 53-60.

2. National Institute for Clinical Excellence. National clinical guidelines on management of chronic obstructive pulmonary disease in adults in primary and secondary care. *Thorax* 2004; 59 (Suppl.1): 1-232.

3. Yohannes AM., Baldwin RC, Connolly MJ. Depression and anxiety in elderly patients with chronic obstructive pulmonary disease. *Age and Ageing* 2006; 35: 457-459.

4. Maurer J. Rebbapragada V, Borson S, Goldtein R, Kunik EM, Yohannes MA, et al. Anxiety and Depression in COPD: Current Understanding, Unansvered Questions, and Research Needs; *Chest* 2008;134:43S-56S.

5. Curtis JR, Deyo RA, Hudson LD. Pulmonary rehabilitation in chronic respiratory insufficiency. Health-related quality of life among patients with chronic obstructive pulmonary disease. *Thorax* 1994; 49:162-170.

6. Global Initiative for Chronic Obstructive Lung Disease. Global Strategy for Diagnosis, Management and Prevention of Chronic Obstructive Pulmonary Disease; Chapter 1; 2006. 9. Available at the web site address: www.goldcopd.com Last accessed February 4th, 2011.

7. Hamilton MA. The Assessment of Anxiety States by Rating. *Br J Med Psychology* 1959;32:50-55.

8. Hamilton MA. Rating scale for depression. *J Neurol Neurosurg Psychiatry* 1960;23:56-62.

9. Edelstein B. Comprehensive Clinical Psychology Volume 7, Clinical Geropsychology. Amsterdam: Elsevier,1998.

10. Maruish MR. The Use of Psychological Testing for Treatment Planning and Outcomes Assessment. Mahwah, NJ: Lawrence Erlbaum, Associates,1999.

11. Üstün TB, Ayuso-Mateos JL, Chatterji S, Mathers C, Murray CJL. Global burden of depressive disorders in the year 2000. *Brit J Psychiat* 2004; 184: 386–92.

12. Chavannes NH, Huibers MJH, Schermer TRJ. Associations of depressive symptoms with gender, body mass index, and dyspnea in primary care COPD patients. *Family Practice Advance Access* 2005: 32:604-607.

13. Carrasco-Garrido P, Miguel-Dìez J, Rejas Gutierrez J, Martin-Centeno A, Gobartt-Vazquez E, Hernandez-Barrera V, et al. Characteristics of chronic obstructive pulmonary disease in Spain from a gender perspective; BMC Pulmonary Medicine 2009, 9:2; www.biomedcentral.com/1471-2466/9/2

14. Ciobanu L, Pesut D, Miloskovic V, Petrovic D. Current opinion on the importance of pulmonary rehabilitation in patients with chronic obstructive pulmonary disease. *Chin Med J* 2007; 120(17):1539-1543.

15. Pesut D, Ciobanu L, Bhagyabati S, Nagorni-Obradovic Lj, Raljevic S, Raileanu M, et al. Illness perception in COPD patients. In: Sepiashvili R. Ed. Advances in Allergy, Asthma&Immunology: From basic science to clinical management. Bologna: Medimond, International Proceedings, 2010; 79-82.

16. Maier W, Gänsicke M, Gater R, Rezaki M, Tiemens B, Urzúa RF. Gender differences in the prevalence of depression: a survey in primary care. *J Affect Disord.* 1999; 53(3):241-52.

17. Hoffman DL, Dukes EM, Wittchen HU. Human and economic burden of generalized anxiety disorder. Depress Anxiety 2008;25(1):72-90.

18. Hu TW. Perspectives: an international review of the national cost estimates of mental illness, 1990-2003. *J Ment Health Policy Econ* 2006;9(1):3-13.

19. Van Manen JG, Bindels PJ, Dekker FW, Jzerman CJ, van der Zec JS, Schade E, et al. Risk of depression in patients with chronic obstructive pulmonary disease and its determinants. *Thorax* 2002; 57: 412-416.

20. Wegena EJ, Kant I, van Amelsvoort LG, Wouters EF, van Schayck CP, Swaen GM. Risk of depression and anxiety in employees with chronic bronchitis: the modifying effect of cigarette smoking. *Psychosom Med* 2004; 66: 729-734

21. Mikkelsen RL, Meddelboe T, Pisinger C, Stage KB. Anxiety and depression in patients with chronic obstructive pulmonary disease (COPD): a review. *Nord J Psychiatry* 2004; 58:65-70.

22. Lacasse Y, Roussseau L, Maltais F. Prevalence of depressive symptoms and depression in patients with severe oxygen-dependent chronic obstructive pulmonary disease. *J Cardiopulm Rehabil* 2001; 21:80-86.

23. Andenaes R, Kalfoss MH, Wahl A. Psychological distress and quality of life in hospitalized patients with chronic obstructive pulmonary disease. *J Adv Nurs* 2004; 46:523-530.

24. Solano JP, Gomes B, Higginson IJ. A comparison of symptom prevalence in far advanced cancer, AIDS, heart disease, chronic obstructive pulmonary disease and renal disease. *J Pain Symptom Manage* 2006; 31:58-69.

25. Kunik ME, Roundy K, Vaezey C, Souchek J, Richardson P, Wray NP, et al. Suprisingly high prevalence of anxiety and depression in chronic breathing disorders. *Chest* 2005; 127: 1205-1211.

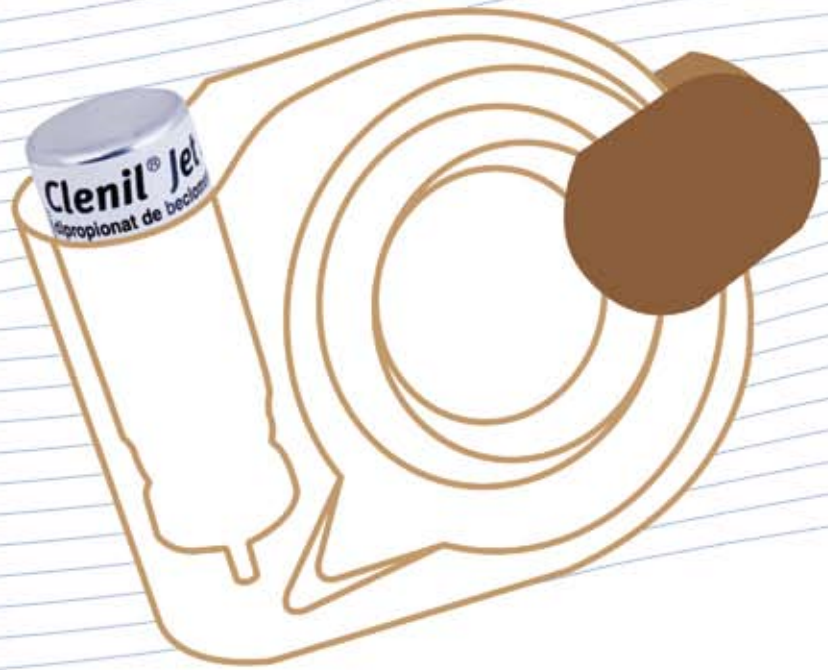
Clenil Jet
beclometazonă

DIN NOU ACCESIBIL

PE LISTA A DE COMPENSARE*

Soluție de inhalat presurizată, beclometazonă 250 mcg.

Cu dispozitiv de inhalare Spacer Jet inclus.



Proiectat pentru a fi în ritm cu plămânii.

* Ordinul CNAS nr. 1103/29.12.2010.

Clenil Jet. În ritmul plămânilor.

CLENIL® JET 250 mcg soluție de inhalat presurizată.

Compoziția: O doză soluție de inhalat presurizată conține dipropionat de beclometazonă 250 mcg. **Indicații terapeutice:** Clenil Jet 250 mcg este indicat pentru tratamentul astmului bronșic persistent, forme moderate și severe, în special la următoarele grupe de pacienți: pacienți la care apar crize diurne frecvente (mai mult de 2-3 pe săptămână) și cu crize nocturne mai mult de 2 pe lună în ciuda utilizării periodice a bronhodilatatoarelor; pacienți care necesită tratament cronic cu medicamente antiastmatice, în special dacă dozele de bronhodilatatoare trebuie crescute periodic; pacienți tratați cu glucocorticoizi sistemici, în cazul în care se dorește reducerea dozei sau întreruperea administrării orale a glucocorticoizilor. **Doze și mod de administrare:** Adulți: doza recomandată inițial este de 500 mcg dipropionat de beclometazonă (2 doze) de 2 ori pe zi. Dacă se consideră necesar, doza poate fi fracționată la 250 mcg (o doză) de 4 ori pe zi. În cazul în care este necesar, doza poate fi crescută la 500 mcg dipropionat de beclometazonă (2 doze) de 3-4 ori pe zi. Tratamentul cu Clenil Jet 250 mcg nu trebuie întrerupt brusc. Copii: nu se recomandă administrarea Clenil Jet 250 mcg la copii. **Contraindicații:** Hipersensibilitate la dipropionat de beclometazonă sau la oricare dintre excipienții produsului. **Atenționări și precauții speciale:** Pacienții trebuie instruiți corespunzător pentru utilizarea corectă a dispozitivului. Pacienții trebuie avertizați că produsul nu este destinat tratamentului crizelor de astm bronșic și stării de rău astmatic; de asemenea, ameliorarea stării clinice nu trebuie să ducă la modificarea dozelor, fără recomandarea medicului curant. La pacienții la care se administrează tratament cu glucocorticoizi sistemici, sunt necesare prudență și monitorizare medicală adecvată deoarece reactivarea funcției corticosuprarenalei, supresate de tratamentul cu corticosteroizi sistemici, se face lent. În orice caz, tratamentul cu dipropionat de beclometazonă sub formă inhalatorie trebuie început în faza stabilă a bolii, după administrarea de glucocorticoizi sistemici. Inițial, Clenil Jet 250 mcg este administrat concomitent cu tratamentul cu glucocorticoizi sistemici, a căror doză trebuie redusă treptat, monitorizând în mod regulat pacienții (în special, în ceea ce privește funcția corticosuprarenaliană); dozele de Clenil Jet 250 mcg se vor ajusta în funcție de rezultatele obținute. Pacienții trebuie informați că produsul conține cantități mici de etanol și glicerină. Aceste cantități sunt, însă, neglijabile și nu reprezintă un risc pentru pacienții care respectă schema terapeutică recomandată. Cu toate acestea, datorită prezenței etanolului, produsul trebuie administrat cu precauție la pacienții cu afecțiuni hepatice, alcoolici (vezi, de asemenea, pct. 4.5 Interacțiuni cu alte produse medicamentoase, alte interacțiuni), epilepsie, afecțiuni cerebrale. Este necesară prudență deosebită la pacienții cu tuberculoză pulmonară activă sau inactivă. În caz de infecții bronșice sau bronhoree abundentă este necesar un tratament adecvat pentru a permite difuzia optimă în căile respiratorii. Produsul poate pozitiva testele antidoping. **Interacțiuni cu alte produse medicamentoase, alte interacțiuni:** Clenil Jet 250 mcg conține o cantitate mică de etanol. Teoretic, există posibilitatea apariției de interacțiuni, în special la pacienți cu hipersensibilitate la care s-au administrat disulfiram sau metronidazol. **Sarcina și alăptarea:** La gravide, Clenil Jet 250 mcg se administrează numai dacă este absolut necesar și sub supraveghere medicală atentă. La om, există date insuficiente cu privire la siguranța administrării beclometazonei sau norfluranului (HFA 134-a). În timpul sarcinii și alăptării, administrarea produsului se va lua în considerare numai dacă beneficiile pentru mamă depășesc riscurile potențiale fetale. Testele efectuate la animalele gestante au arătat că administrarea dipropionatului de beclometazonă poate determina tulburări ale dezvoltării intrauterine a fătului, de exemplu, palatoschizis sau întârzieri de creștere intrauterină. Aceste afecțiuni au apărut ca rezultat al administrării sistemice de doze mari de glucocorticoizi. Administrarea topică, inhalatorie la om a dipropionatului de beclometazonă, nu determină reacții adverse sistemice caracteristice tratamentului sistemic cu glucocorticoizi, deoarece medicamentul acționează numai local, la nivelul țesutului pulmonar. Totuși, copiii născuți de mame la care s-au administrat inhalator, în timpul sarcinii, doze mari de glucocorticoizi, trebuie monitorizați pentru a se depista o eventuală scădere a funcției corticosuprarenaliene. Este puțin probabil ca, după administrarea inhalatorie la dozele recomandate, dipropionatul de beclometazonă să atingă concentrații semnificative în laptele matern. Cu toate acestea, la femeile care alăptează, în cazurile în care se are în vedere administrarea dipropionatului de beclometazonă inhalator, trebuie analizate cu mare atenție raportul risc/beneficiu. Studiile clinice cu norfluran (HFA 134-a) efectuate la animale, asupra funcției de reproducere și a dezvoltării embrio/fetale, nu au evidențiat reacții adverse semnificative. De aceea, apariția unor astfel de reacții adverse la om, este puțin probabilă. Nu se cunosc date privind excreția norfluranului (HFA 134-a) în lapte. **Efecte asupra capacității de a conduce vehicule sau de a folosi utilaje:** Dipropionatul de beclometazonă nu influențează capacitatea de a conduce vehicule sau de a folosi utilaje. **Reacții adverse:** Ocazional, pot să apară micoze (candidoze) la nivelul cavității orofaringiene, care, în general, dispar prin tratament local antimicotic fără întreruperea tratamentului. Apariția frecventă a acestor infecții, poate fi prevenită prin clătirea cu apă a cavității bucale după fiecare administrare. În cazuri izolate, au apărut disfonie și xerostomie. De asemenea, au fost raportate reacții alergice cum sunt erupții cutanate, urticarie, prurit, edem al pleoapelor, ochilor, feței, gurii și faringelui. În cazul administrării schemei terapeutice recomandate este puțin probabilă apariția reacțiilor adverse; cu toate acestea, pacienții trebuie monitorizați cu atenție în cazul tratamentului prelungit, pentru a depista la timp apariția unor reacții adverse sistemice (osteoporoză, ulcer gastric sau duodenal, manifestări clinice secundare insuficienței corticosuprarenale cum sunt hipotensiune arterială și scădere ponderală) și pentru a evita, în cazul apariției insuficienței corticosuprarenaliene acute, reacțiile adverse grave consecutive. Administrarea inhalatorie a unor doze mai mari (>1500 mcg dipropionat de beclometazonă pe zi) pentru o perioadă lungă de timp poate determina inhibarea funcției corticosuprarenalei. Ca și în cazul administrării inhalatorii a altor medicamente, poate să apară bronhospasm paradoxal. **Supradozaj:** În cazul administrării de doze prea mari de dipropionat de beclometazonă, poate să apară inhibiția temporară a axului hipotalamo-hipofizo-corticosuprarenalian. În acest caz este necesară întreruperea tratamentului și instituirea unui tratament sistemic adecvat care să antagonizeze efectele de supresie a funcției corticosuprarenalei. **Lista excipienților:** Glicerol, etanol anhidru, norfluran (HFA 134-a). **Perioada de valabilitate:** 3 ani. **Precauții speciale pentru păstrare:** A se păstra la temperaturi sub 30°C, ferit de lumină directă, căldură și îngheț. În ambalajul original. **Natura și conținutul ambalajului:** Cutie cu un flacon presurizat din aluminiu a 200 doze, prevăzut cu valvă dozatoare, introdus în dispozitivul de administrare de tip "spacer JET", cu capac. **Instrucțiuni privind pregătirea produsului medicamentos în vederea administrării și manipularea sa:** Reușita tratamentului depinde de utilizarea corectă a dispozitivului de inhalare. Înaintea primei utilizări sau dacă aceasta nu s-a efectuat timp de 3 zile sau mai mult, se îndepărtează capacul protector al piesei bucale, apăsând ușor părțile laterale și se pulverizează o dată în aer pentru a verifica funcționarea corectă a valvei. **Pentru utilizare, trebuie respectate cu strictețe următoarele instrucțiuni:** 1. dispozitivul de administrare de tip spacer Jet în poziție închisă; 2. se îndepărtează capacul protector al dispozitivului de administrare de tip spacer; 3. se expiră complet și se plasează piesa bucală ferm între buze; 4. în timpul unui inspir profund, numai pe gură, se apasă cu indexul o singură dată și se continuă inspirul (este posibil un inspir mai lung prin intermediul dispozitivului de administrare de tip spacer Jet; 5. după ce s-a efectuat un inspir complet, se ține respirația cât timp este posibil. După administrare, se acoperă dispozitivul de administrare de tip spacer Jet cu capacul aferent. Dispozitivul de administrare de tip spacer Jet va fi păstrat curat în permanență, spălarea realizându-se cu apă caldă, după scoaterea flaconului presurizat de aluminiu. **Deținătorul APP** nr. 4764/2004/01 : Chiesi Farmaceutici S.p.A., Via Palermo 26/A 43100 Parma, Italia. **Data autorizării:** Septembrie 2004. **Data revizuirii textului:** Aprilie 2006.

Acest material promoțional este adresat profesioniștilor din domeniul sănătății. Acest medicament se eliberează pe bază de prescripție medicală PRF. Pentru informații complete despre produs, vă rugăm să consultați Rezumatul Caracteristicilor Produsului. Pentru orice alte informații privind produsul Clenil Jet, vă rugăm să vă adresați reprezentanților Chiesi România.

002/CR/CleniJet/RO/03-2011

Chiesi Romania – Member of Chiesi Central Eastern Europe
Torrex Chiesi SRL – 31 Mărăști – 011463 – București – România
Telefon +40/21 202 36 42 – Fax +40/21 202 36 43
www.chiesi.ro

Chiesi
People and ideas for innovation in healthcare