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Praktický přínos sledování CAT

Chytré postupy bývají „jednoduché"

SG NHS 2016

CAT - COPD ASSESSMENT TEST

2009

2011

obtain, from the patient, reliable and valid information on the impact of COPD on their health status. This would include information on

Development and first validation of the COPD Assessment Test

P.W. Jones*, G. Harding**, P. Berry†, I. Wiklund‡, W-H. Chen** and N. Kline Leidy**

ABSTRACT: There is need for a validated short, simple instrument to quantify chronic obstructive pulmonary disease (COPD) impact in routine practice to aid health status assessment and communication between patient and physician. Current health-related quality of life questionnaires provide valid assessment of COPD, but are complex, which limits routine use.

The aim of the present study was to develop a short validated patient-completed questionnaire, the COPD Assessment Test (CAT), assessing the impact of COPD on health status.

21 candidate items identified through qualitative research with COPD patients were used in three prospective international studies (Europe and the USA, n=1,503). Psychometric and Rasch analyses identified eight items fitting a unidimensional model to form the CAT. Items were tested for differential functioning between countries. Internal consistency was excellent: Cronbach's α=0.88. Test re-test in stable patients (n=53) was very good (intra-class correlation coefficient 0.8). In the sample from the USA, the correlation with the COPD-specific version of the St George's Respiratory Questionnaire was r=0.80. The difference between stable (n=329) and exacerbation patients (n=67) was five units of the 40-point scale (12%; p<0.0001).

The CAT is a short, simple questionnaire for assessing and monitoring COPD. It has good measurement properties, is sensitive to differences in state and should provide a valid, reliable and standardised measure of COPD health status with worldwide relevance.

TABLE 2 COPD Assessment Test (CAT) scores by country

Country	Subjects	CAT score
Belgium	71	21.5 ± 9.9
France	284	18.5 ± 8.8
Germany	431	18.2 ± 8.1
The Netherlands	100	16.0 ± 7.4
Spain	369	16.4 ± 8.9
USA	229	17.8 ± 7.5

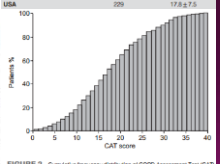


FIGURE 2. Cumulative frequency distribution of COPD Assessment Test (CAT) score in 1,503 patients with stable chronic obstructive pulmonary disease (COPD). 50% of patients used 63% of the scaling range; 10% of patients had a score ≤7 units and 10% had a score ≥32.

2009

AE - ↑ o 5 (CAT) resp. ↑ o 12 (SGRQ)

2009

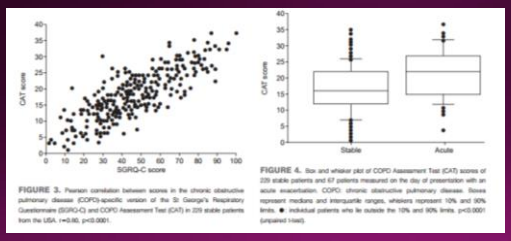


FIGURE 3. Pearson correlation between scores in the chronic obstructive pulmonary disease (COPD)-specific version of the St George's Respiratory Questionnaire (SGRQ-C) and COPD Assessment Test (CAT) in 229 stable patients from the USA. r=0.80, p<0.0001.

FIGURE 4. Box and whisker plot of COPD Assessment Test (CAT) scores of 229 stable patients and 67 patients measured on the day of presentation with an acute exacerbation. COPD: chronic obstructive pulmonary disease. Boxes represent medians and interquartile ranges, whiskers represent 10% and 90% limits, ● individual patients who lie outside the 10% and 90% limits. p<0.0001 (unpaired t-test).

AE – rozdíl v CAT u AE a non-AE pts

2012

Usefulness of the Chronic Obstructive Pulmonary Disease Assessment Test to evaluate severity of COPD exacerbations.

Author information

Abstract

RATIONALE: The Chronic Obstructive Pulmonary Disease (COPD) Assessment Test (CAT) is an eight-item questionnaire designed to assess and quantify the impact of COPD symptoms on health status. COPD exacerbations impair quality of life and are characterized by worsening respiratory symptoms from the stable state. We hypothesized that CAT scores at exacerbation relate to exacerbation severity as measured by exacerbation duration, lung function impairment, and systemic inflammation.

OBJECTIVES: To evaluate the usefulness of the CAT to assess exacerbation severity.

METHODS: One hundred sixty-one patients enrolled in the London COPD cohort completed the CAT at baseline (stable state), exacerbation, and during recovery between April 2010 and June 2011.

MEASUREMENTS AND MAIN RESULTS: Frequent exacerbators had significantly higher baseline CAT scores than infrequent exacerbators (17.5 ± 6.6 vs. 16.0 ± 6.3; P = 0.039). In 152 exacerbations, CAT scores rose from an average baseline value of 19.4 ± 6.8 to 24.1 ± 7.3 (P < 0.001) at exacerbation. Change in CAT score from baseline to exacerbation onset was significantly but weakly related to change in C-reactive protein (rho = 0.26, P = 0.008) but not to change in fibrinogen (rho = 0.09, P = 0.351) from baseline. At exacerbation, rises in CAT score were significantly associated with falls in FEV(1) (rho = -0.20, P = 0.032). Median recovery time as judged by symptom diary cards was significantly related to the time taken for the CAT score to return to baseline (rho = 0.42, P = 0.012).

CONCLUSIONS: The CAT provides a reliable score of exacerbation severity. Baseline CAT scores are elevated in frequent exacerbators. CAT scores increase at exacerbation and reflect severity as determined by lung function and exacerbation duration.

RHB - ↓ o 2-3 (CAT) resp. ↓ o 4 (SGRQ)

2011

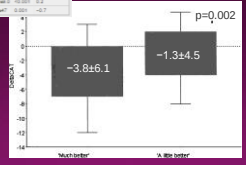
Thorax

Chronic obstructive pulmonary disease

Original article

The COPD assessment test (CAT): response to pulmonary rehabilitation. A multicentre, prospective study

MCID CAT možná 1.6



Efekt RHB na CAT trvá minimálně 6M

2012

COPD. 2012 Aug;9(4):390-4. doi: 10.3109/15412555.2012.671669. Epub 2012 Apr 12.

The COPD Assessment Test (CAT): short- and medium-term response to pulmonary rehabilitation.

Dodd JW, Marns PL, Clark AL, Ingram KA, Fowler RP, Canavan JL, Patel MS, Kon SS, Hopkinson NS, Polkey MI, Jones PW, Man WD.

Author information

Abstract

BACKGROUND: The COPD Assessment Test (CAT) is a recently introduced instrument to assess health-related quality of life in COPD. We aimed to evaluate the longitudinal change in CAT following Pulmonary Rehabilitation (PR), and test the relationship between CAT and CRQ-Self Report (SR) over time. We hypothesised that the CAT would show similar responsiveness to PR as the CRQ-SR both in the short and medium-term.

METHODS: 118 COPD patients completed an eight-week outpatient multidisciplinary PR programme. CAT, CRQ-SR and the incremental shuttle walk (ISW) were measured prior to starting PR (T1), completion of PR (T2) and 6 months after completion of PR (T3).

RESULTS: There was a significant improvement in CAT, CRQ-SR and ISW immediately following PR ($p < 0.001$). Although there was decline between T2 and T3, CAT, CRQ-SR and ISW remained significantly better at T3 compared with T1 (ANOVA $p < 0.001$). Both between T1-T2 and between T2-T3, change in CAT correlated significantly with change in CRQ (both $r = -0.44$ and $p < 0.001$). The slope of the relationship between CAT change and CRQ-SR change at T1-T2 and T2-T3 was not significantly different (ANCOVA: intercept $p = 0.79$, interaction effect $p = 0.95$).

CONCLUSIONS: In COPD, the CAT score is immediately responsive to PR and remains improved at 6 months. There is no significant difference in the short and medium term changes in the CAT and CRQ-SR following PR. We propose that for most clinical indications for assessing health-related quality of life in COPD, the CAT is a robust and practical alternative to longer-established instruments such as the CRQ-SR.

CAT a KOMORBIDITY (WE)

2011

Properties of the COPD assessment test in a cross-sectional European study

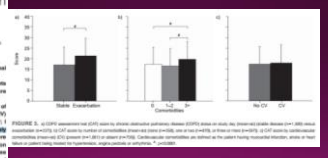
P.W. Jones*, G. Brusselle#, R.W. Dal Negro+, M. Ferrer-, P. Kardos-, M.L. Levy-, T. Perez**, J.J. Soler Cataluña**, T. van der Molen++, L. Adamek+ and N. Banik++

ABSTRACT: A short, easy-to-use health status questionnaire is needed in the multidimensional assessment of chronic obstructive pulmonary disease (COPD) in routine practice.

The performance of the eight-item COPD assessment test (CAT) was analysed in 1,817 patients from primary care in seven European countries. The CAT has a scoring range of 0–40 (high score representing poor health status).

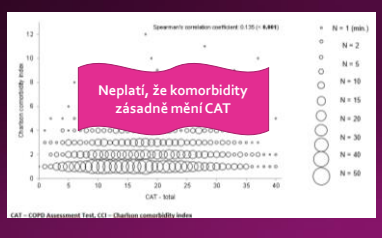
Mean CAT scores indicated significant health status impairment that was related to severity of airway obstruction, but within each Global Initiative for Obstructive Lung Disease stage (I to IV) there was a wide range of scores (I: 16.2 (±8.6); II: 16.3 (±7.9); III: 19.0 (±8.2); and IV: 22.3 (±7.1) versus II, p=0.86; II versus III, p<0.0001; III versus IV, p<0.0001). CAT scores showed relatively little variability across countries (within ± 10% of the mean across all countries). Scores were significantly better in patients who were stable (17.2 (±8.3) versus those suffering an exacerbation (21.3 (±8.4) (p<0.0001)) and in patients with no (17.3 (±8.1) or one or two (18.6 (±8.2) versus three or more (19.7 (±8.5)) comorbidities (p<0.0001 for both). The CAT distinguished between classes of other impairment measures and was strongly correlated with the St George's Respiratory Questionnaire (r=0.8, p<0.0001).

The CAT is a simple and easy-to-use questionnaire that distinguishes between patients of different degrees of COPD severity and appears to behave the same way across countries.



CAT a komorbidity (CEE)

2016



COPD PLATFORM data

CAT a mmRC (n 1817)

2013

Comparisons of health status scores with MRC grades in COPD: implications for the GOLD 2011 classification

Paul W. Jones1, Lukasz Adamek2, Gilbert Nadeau3 and Norbert Banik4

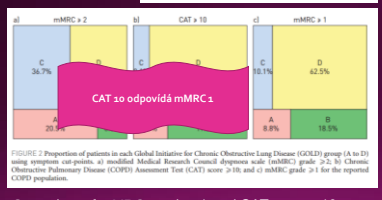
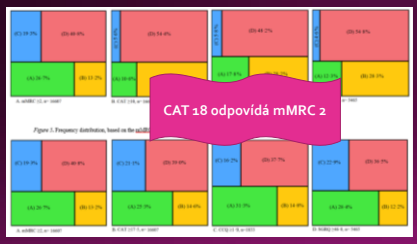


FIGURE 2 Proportion of patients in each Global Initiative for Chronic Obstructive Lung Disease (GOLD) group (A to D) using symptom cut-points. a) modified Medical Research Council dyspnoea scale (mMRC) grade ≥2; b) Chronic Obstructive Pulmonary Disease (COPD) Assessment Test (CAT) score ≥10; and c) mMRC grade ≥1 for the reported COPD population.

Cut-points of mMRC grade ≥1 and CAT score ≥10 were approximately equivalent in determining low-symptom

CAT a mMRC (n 18.577)



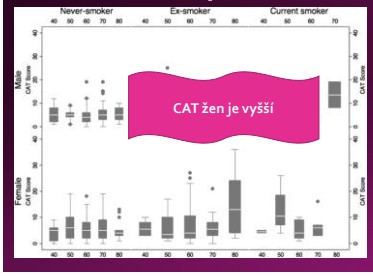
Smid et al 2017

CAT u „zdravých pracujících"

2013

CAT u „zdravých"

2014



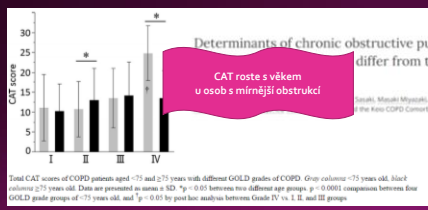
The overall mean CAT 6
CAT higher among females 6.43 and subjects over 80 years 7.58

CAT 16 was the 95th percentile

Current smoking, subject-reported physician-diagnosed asthma, and musculoskeletal disease were significantly associated with ≥16

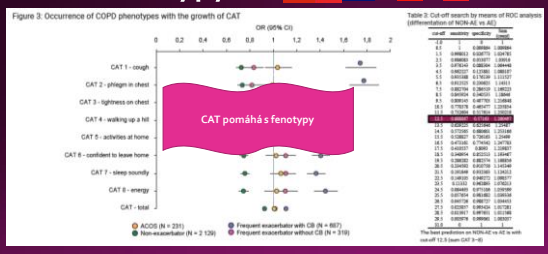
Co dělá věk s CAT ?

2016



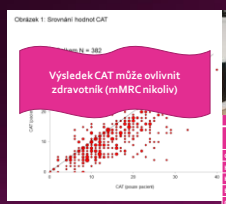
CAT a fenotypy

2016



Co když s CAT pomáháme ?

2017



		Sám pacient		Pacient s lékařem		
		Medián (5.-95. percentil)	Průměr (SD)	Medián (5.-95. percentil)	Průměr (SD)	p*
Celkem	N = 382	16.0 (5.0; 30.0)	16.4 (8.0)	12.0 (3.0; 27.0)	12.6 (7.3)	< 0.001
Hradec Králové	N = 100	16.0 (6.0; 30.0)	16.5 (7.4)	13.0 (4.5; 24.0)	13.2 (6.4)	< 0.001
Karlovy Vary	N = 99	14.0 (4.0; 30.0)	15.9 (7.9)	7.0 (2.0; 22.0)	8.7 (6.0)	< 0.001
Brno	N = 81	15.0 (4.0; 32.0)	17.1 (9.3)	13.0 (2.0; 30.0)	14.5 (8.1)	< 0.001
Ostrava	N = 77	16.0 (5.0; 30.0)	16.5 (7.7)	14.0 (4.0; 30.0)	15.0 (7.4)	0.002
Teplice	N = 25	15.0 (4.0; 23.0)	15.6 (7.3)	15.0 (4.0; 23.0)	12.9 (6.7)	< 0.001

Závěr

- **CAT určuje dopad na nemocné (podobně jako SGRQ total)**

Závěr

- CAT určuje dopad na nemocné (podobně jako SGRQ total)
- **CAT je lehce ovlivněn pohlavím, věkem a komorbiditami**

Závěr

- CAT určuje dopad na nemocné (podobně jako SGRQ total)
- CAT je lehce ovlivněn pohlavím, věkem a komorbiditami
- **CAT pomáhá identifikovat zlepšení po RHB či zhoršení po AE**

Závěr

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- **CAT je zásadním nástrojem pro klasifikaci GOLD**

Závěr

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- CAT je lehce ovlivněn pohlavím, věkem a komorbiditami
- CAT pomáhá identifikovat zlepšení po RHB či zhoršení po AE
- CAT je zásadním nástrojem pro klasifikaci GOLD
- **CAT může nasměrovat při hledání fenotypu**

Implementace ?

„CAT nepoužívám, nenahradí přímý kontakt s pacientem .."

PLICNÍ KLINIKA
FAKULTNÍ NEMOCNICE HRADEC KRÁLOVÉ

„CAT používáme, pomůže zkvalitnit naši práci a navíc využije čas v čekárně .."

„CAT je základ monitorace pacientů s CHOPN .."

„CAT je snadné používat, jen musí mít pacienti brýle .."