Réseau de recherche en santé des population du Québec

Regroupement Santé Mentale

réseau qualaxia network

vivre en bonne santé mentale

Rôle des comorbidités psychiatriques dans le traitement et le pronostic des maladies respiratoires

Grégory Moullec, PhD

Chercheur, Centre de Recherche, CIUSSS Nord-de-l'Île-de-Montréal

Professeur adjoint (sous octroi), École de Santé Publique, Département de Médecine Sociale et Préventive, Université de Montréal

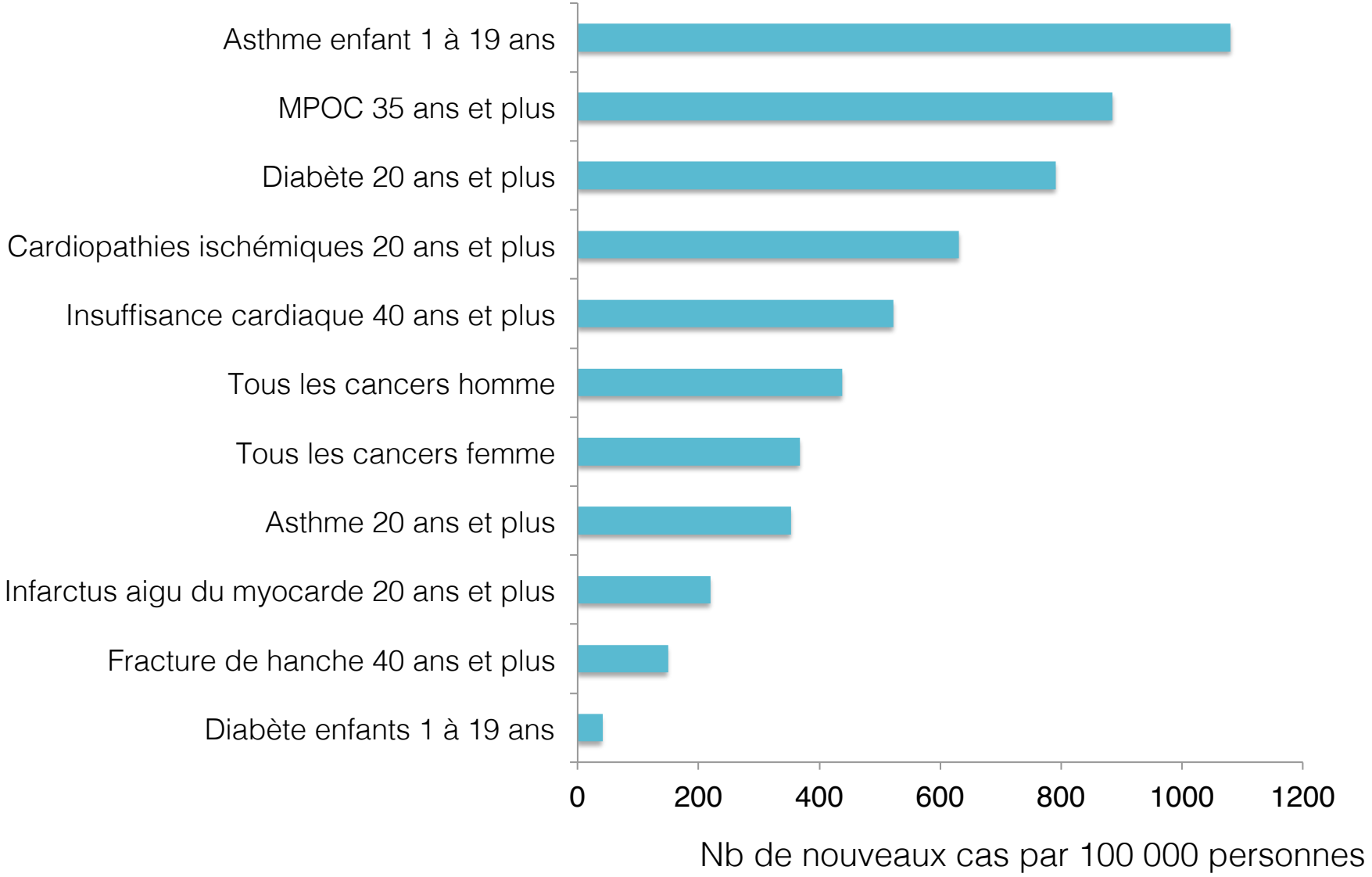
Invité: Claude Poirier, MD MSc

Pneumologue, Directeur du programme de réadaptation respiratoire, Centre Hospitalier de l'Université de Montréal, Hôtel Dieu de Montréal

Conflits d’intérêts

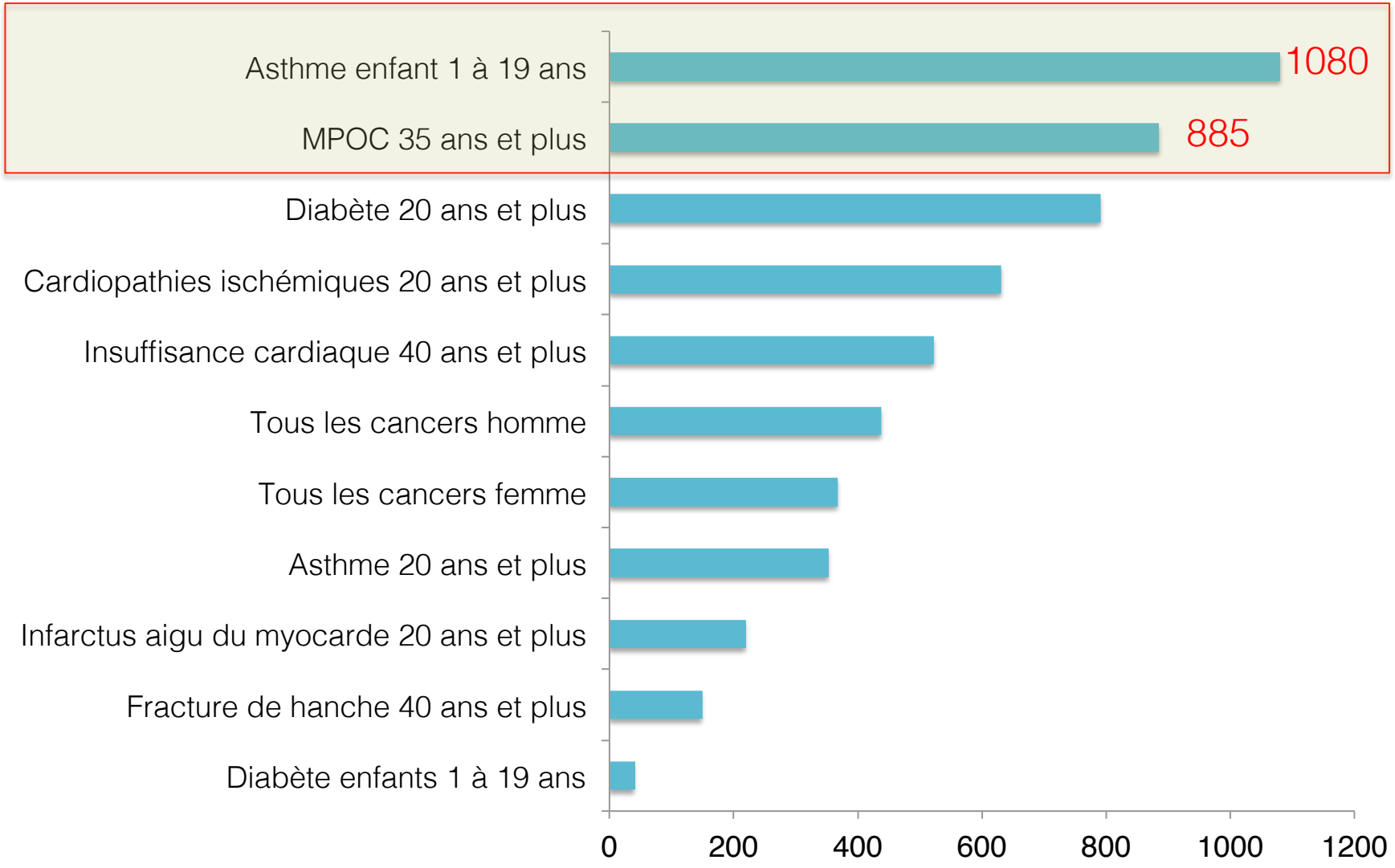
- Subvention AstraZeneca

Maladies chroniques respiratoires?



Système canadien de surveillance des maladies 2011/12

Maladies chroniques respiratoires?



Système canadien de surveillance des maladies 2011/12

1ère

MPOC: 1ère cause d'hospitalisation et de ré-hospitalisation dans l'année (après les accouchements) au Canada

Institut canadien d'information sur la santé (2008)

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3,45 millions en 2011 à 5,83 millions en 2035 (+70 %) patients MPOC au Canada.

Najafzadeh et al., PLoS ONE 2012;7(10):e46746

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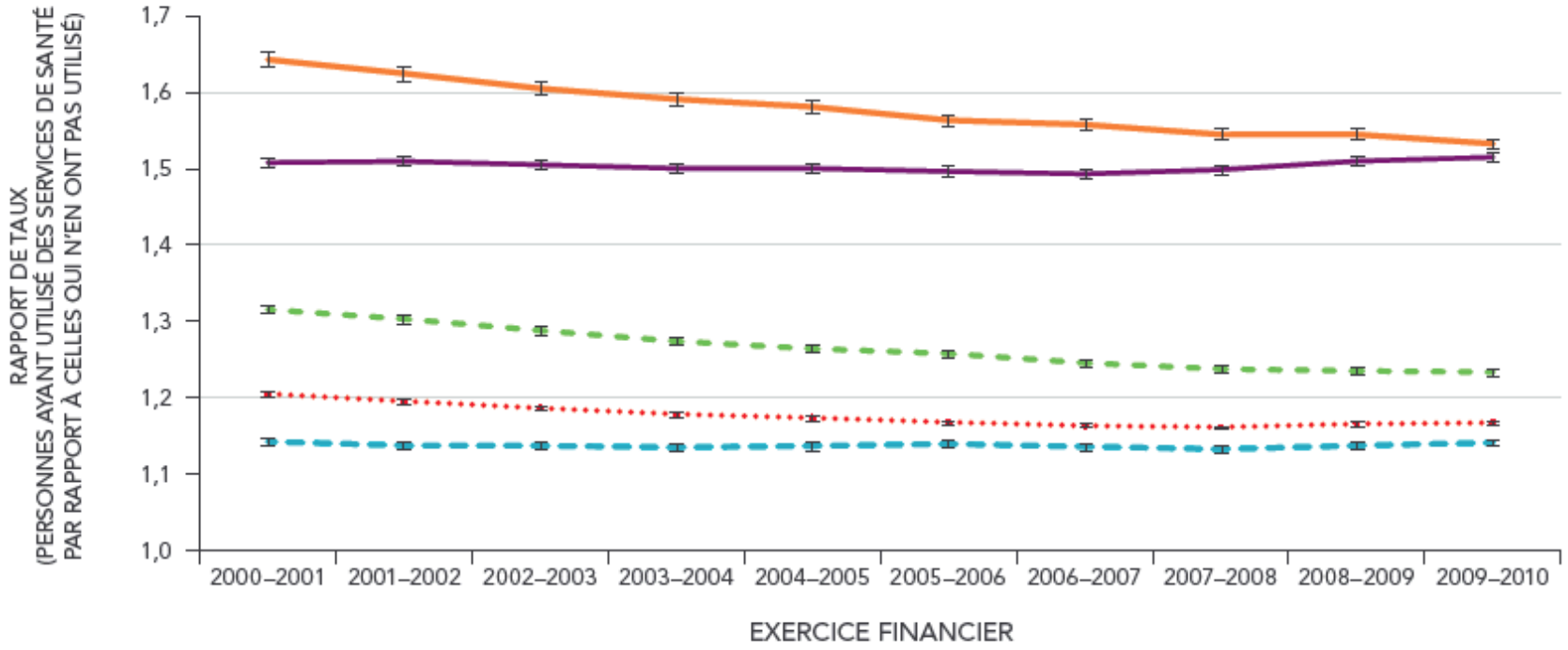
3ème

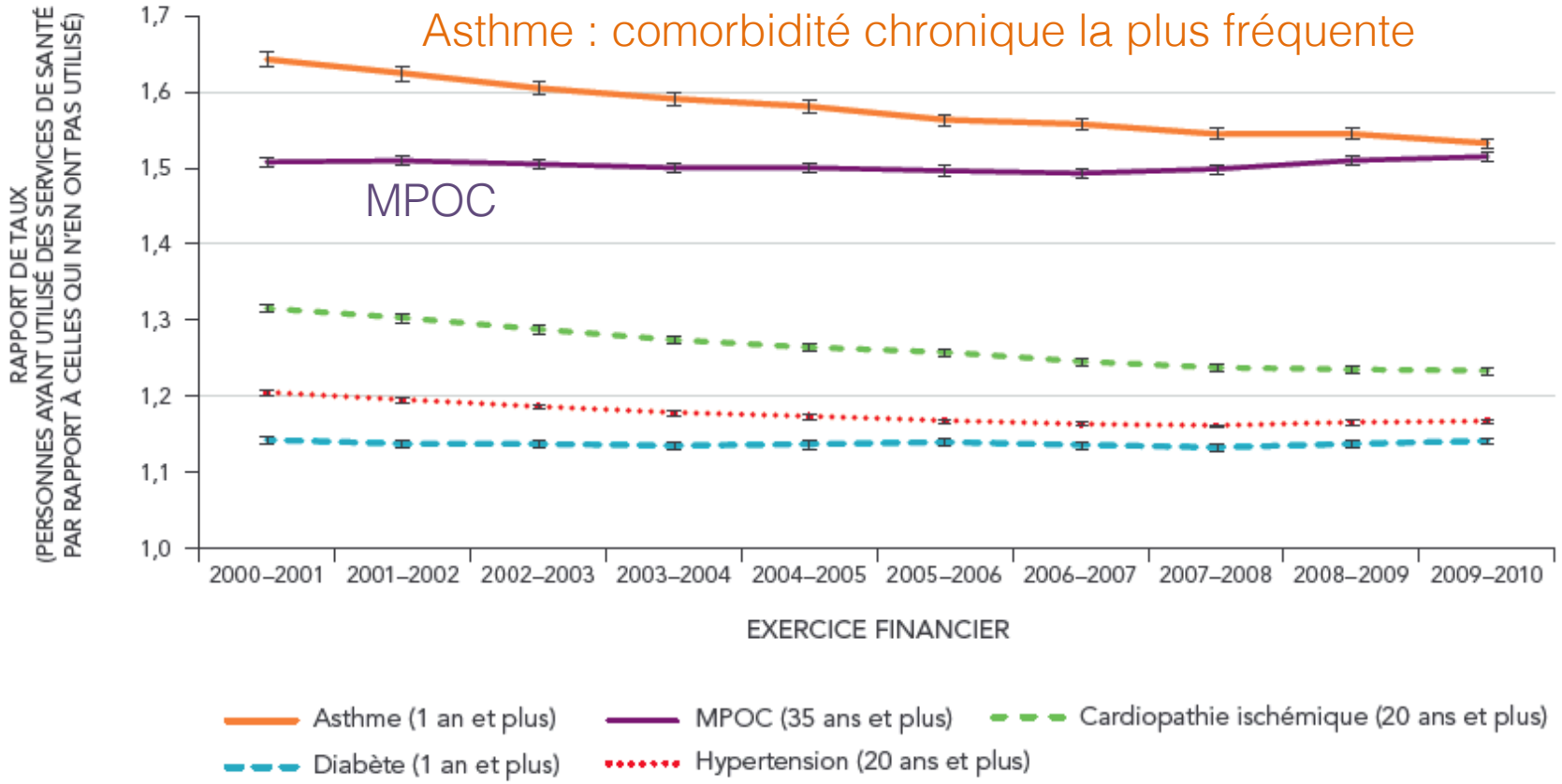
cause de mortalité dans le monde d'ici 2030 (OMS)

FIGURE 7: Rapports de taux normalisés selon l'âge† de la prévalence des maladies ou affections chroniques chez les personnes ayant utilisé des services de santé pour des troubles anxieux et de l'humeur par rapport à celles n'en ayant pas utilisé‡, au Canada*, de 2000–2001 à 2009–2010



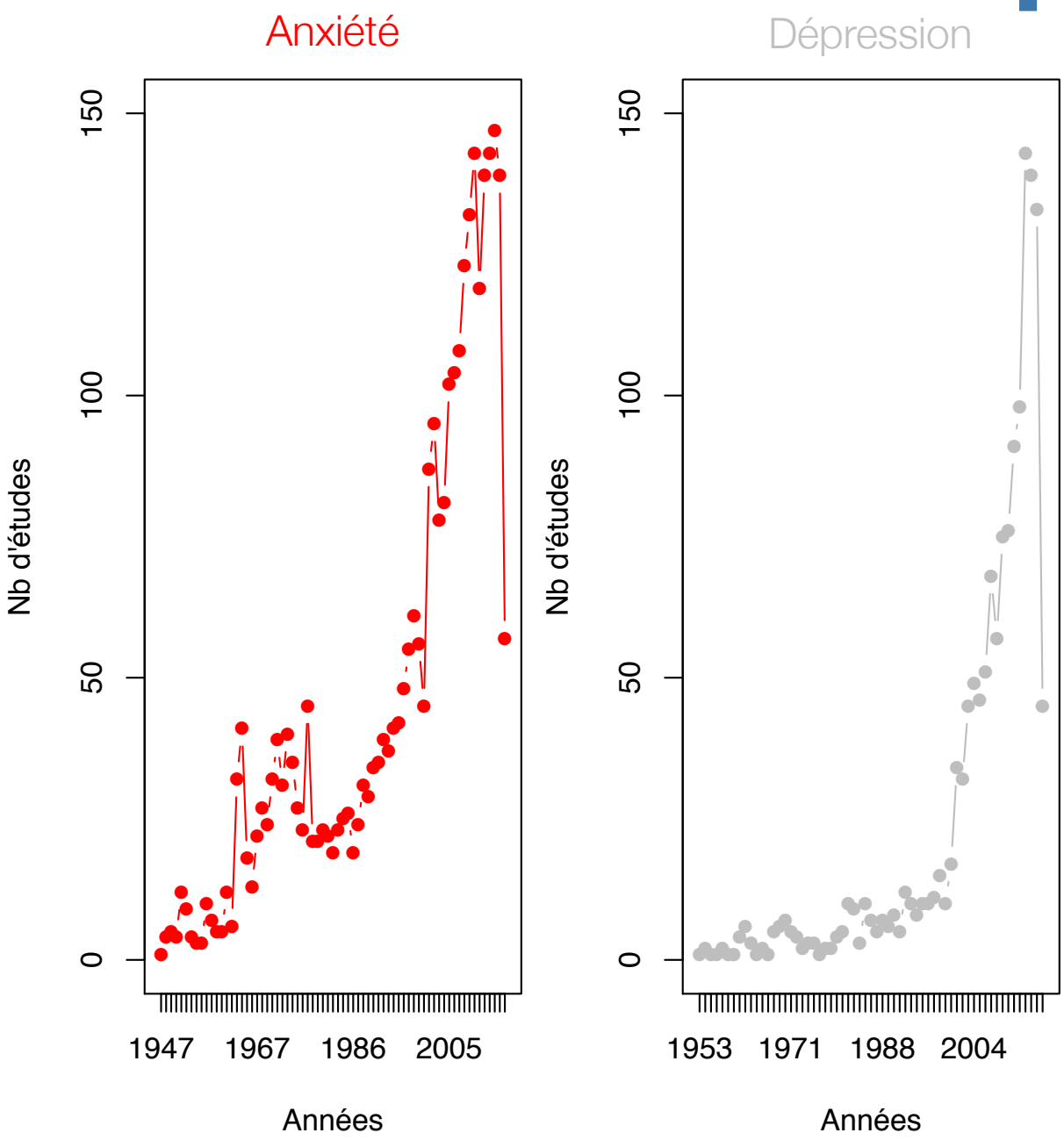
Système canadien de surveillance des maladies – Rapport sur les troubles anxieux et de l'humeur (2016)

FIGURE 7: Rapports de taux normalisés selon l'âge† de la prévalence des maladies ou affections chroniques chez les personnes ayant utilisé des services de santé pour des troubles anxieux et de l'humeur par rapport à celles n'en ayant pas utilisé‡, au Canada*, de 2000–2001 à 2009–2010



Système canadien de surveillance des maladies – Rapport sur les troubles anxieux et de l'humeur (2016)

Comorbidités psychiatriques et maladies respiratoires: intérêt croissant!!


Anxiété
Dépression
Nb d'études
0
50
100
150
1947
1967
1986
2005
1953
1971
1988
2004
Années
Années

Prévalence?

Prévalence? dans l'asthme

The Prevalence of Anxiety Disorders Among Adults with Asthma: A Meta-Analytic Review

Eric B. Weiser

Table 2 Current and lifetime aggregate prevalence of anxiety disorders among adults with asthma

Anxiety disorder[a]	Number of studies	Range of estimates lower/upper	Weighted average	Cochran's Q	95% CI lower/upper	Sensitivity lower/upper
Any anxiety disorder	8	.16/.59	34%	42.54, $p < .0001$	.23–.44	.31–.36
Specific phobia	6	.02/.29	10%	16.27, $p < .0006$	.04–.18	.07–.13
Social phobia	6	.04/.13	7%	6.28, $p = .28$	.05–.09	.06–.08
PD w/wo AGOR	11	.07/.24	12%	13.46, $p = .19$	.10–.15	.11–.13
Panic attacks	5	.08/.40	25%	61.85, $p < .0001$	.14–.38	.21–.30
AGOR w/o PD	6	.02/.26	12%	24.36, $p < .0002$	.06–.21	.10–.15
GAD	7	.00/.24	9%	42.15, $p < .0001$	.04–.16	.07–.11
PTSD	5	.01/.18	6%	9.07, $p = .06$	.04–.09	.05–.08

Note. F = fixed effects model; R = random effects model; PD = panic disorder; AGOR = agoraphobia; GAD = generalized anxiety disorder; OCD = obsessive-compulsive disorder; PTSD = posttraumatic stress disorder

[a] Because only one study provided prevalence data for OCD, the aggregate prevalence of this disorder was not estimated

Adultes

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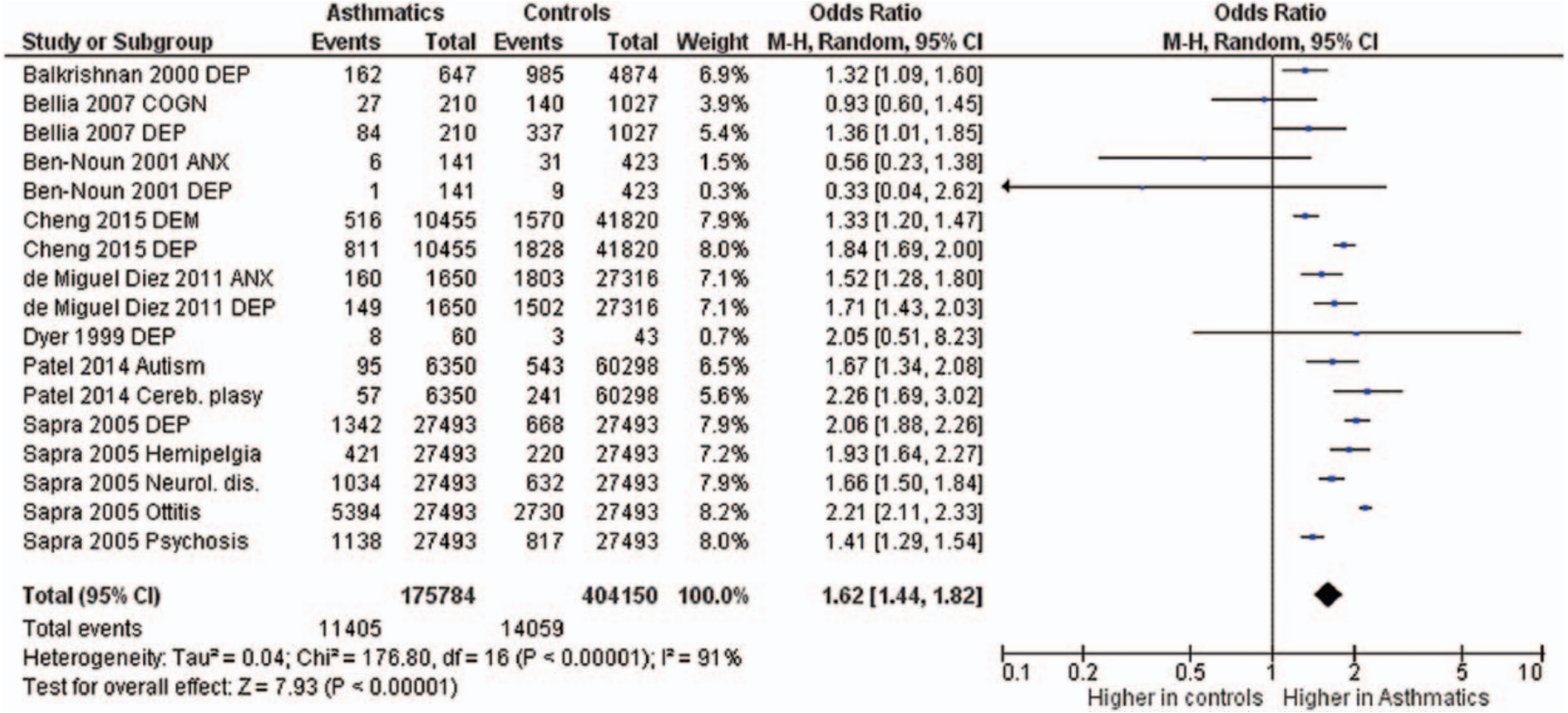
Adultes

J Clin Psychol Med Settings (2007) 14:297–307

Prevalence of Comorbidities in Asthma and Nonasthma Patients

A Meta-analysis

Xinming Su, MD, Yuan Ren, MM, Menglu Li, MM, Xuan Zhao, MM, Lingfei Kong, MD, and Jian Kang, MD



Study or Subgroup	Asthmatics Events	Asthmatics Total	Controls Events	Controls Total	Weight	Odds Ratio M-H, Random, 95% CI
Balkrishnan 2000 DEP	162	647	985	4874	6.9%	1.32 [1.09, 1.60]
Bellia 2007 COGN	27	210	140	1027	3.9%	0.93 [0.60, 1.45]
Bellia 2007 DEP	84	210	337	1027	5.4%	1.36 [1.01, 1.85]
Ben-Noun 2001 ANX	6	141	31	423	1.5%	0.56 [0.23, 1.38]
Ben-Noun 2001 DEP	1	141	9	423	0.3%	0.33 [0.04, 2.62]
Cheng 2015 DEM	516	10455	1570	41820	7.9%	1.33 [1.20, 1.47]
Cheng 2015 DEP	811	10455	1828	41820	8.0%	1.84 [1.69, 2.00]
de Miguel Diez 2011 ANX	160	1650	1803	27316	7.1%	1.52 [1.28, 1.80]
de Miguel Diez 2011 DEP	149	1650	1502	27316	7.1%	1.71 [1.43, 2.03]
Dyer 1999 DEP	8	60	3	43	0.7%	2.05 [0.51, 8.23]
Patel 2014 Autism	95	6350	543	60298	6.5%	1.67 [1.34, 2.08]
Patel 2014 Cereb. plasy	57	6350	241	60298	5.6%	2.26 [1.69, 3.02]
Sapra 2005 DEP	1342	27493	668	27493	7.9%	2.06 [1.88, 2.26]
Sapra 2005 Hemipelgia	421	27493	220	27493	7.2%	1.93 [1.64, 2.27]
Sapra 2005 Neurol. dis.	1034	27493	632	27493	7.9%	1.66 [1.50, 1.84]
Sapra 2005 Ottitis	5394	27493	2730	27493	8.2%	2.21 [2.11, 2.33]
Sapra 2005 Psychosis	1138	27493	817	27493	8.0%	1.41 [1.29, 1.54]
Total (95% CI)		**175784**		**404150**	**100.0%**	**1.62 [1.44, 1.82]**
Total events	11405		14059			

Heterogeneity: $Tau^2 = 0.04$; $Chi^2 = 176.80$, $df = 16$ ($P < 0.00001$); $I^2 = 91\%$

Test for overall effect: $Z = 7.93$ ($P < 0.00001$)

FIGURE 5. Forest plots showing significantly higher prevalence of neurological and psychiatric comorbidities in asthma patients. ANX = anxiety, COGN = cognitive impairment, DEM = dementia, DEP = depression, dis. = disease/disorder.

Neurological and psychiatric comorbidities: OR = 1.62 (1.44-1.82)

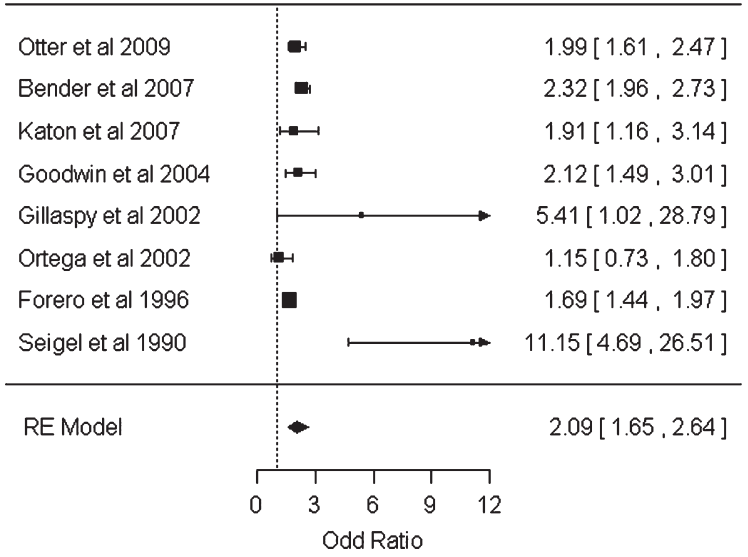
Adultes

Medicine (2016) 95(22):e3459.

Prevalence of anxiety and depressive symptoms in adolescents with asthma: A meta-analysis and meta-regression

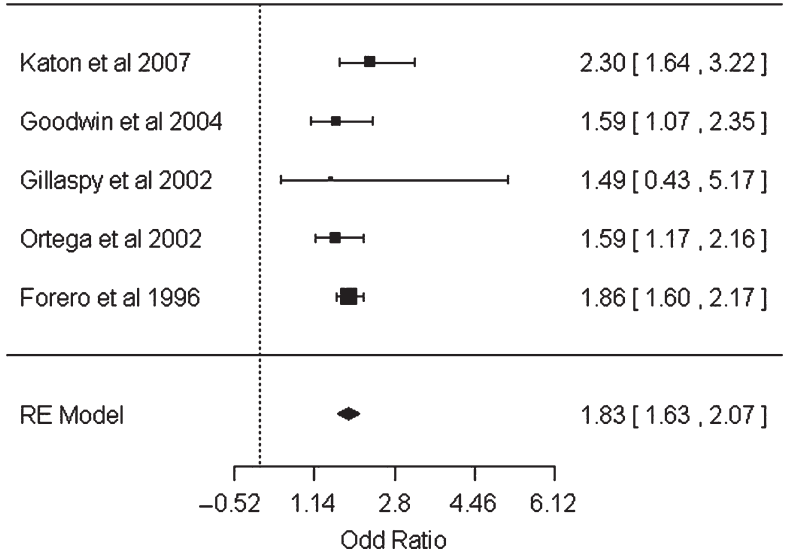
Yanxia Lu[1], Kwok-Kei Mak[2], Hugo P. S. van Bever[3], Tze Pin Ng[1], Anselm Mak[4] & Roger Chun-Man Ho[1]

Dépression (pooled OR: 2.09)



(a) Forest plot of the pooled odd ratio of depressive symptoms in adolescents with and without asthma

Anxiété (pooled OR: 1.83)



(b) Forest plot of the pooled odd ratio of anxiety symptoms in adolescents with and without asthma

Figure 3 Forest plot of the pooled odd ratio of depressive and anxiety symptoms in adolescents with asthma vs. healthy controls. Forest plot of the pooled odd ratio of (a) depressive symptoms and (b) anxiety symptoms in adolescents with and without asthma.

Adolescents

Pediatric Allergy and Immunology **23** (2012) 707–715

Prévalence? dans la MPOC

Prevalence of depressive symptoms in patients with chronic obstructive pulmonary disease: a systematic review, meta-analysis and meta-regression☆

Melvyn W.B. Zhang, B.Sc.[a], Roger C.M. Ho, M.B.B.S, M.R.C.Psych.[a,*], Mike W.L. Cheung, Ph.D.[b], Erin Fu, B.Soc.Sc.[a], Anselm Mak, M.Med.Sc., F.R.C.P.[c]

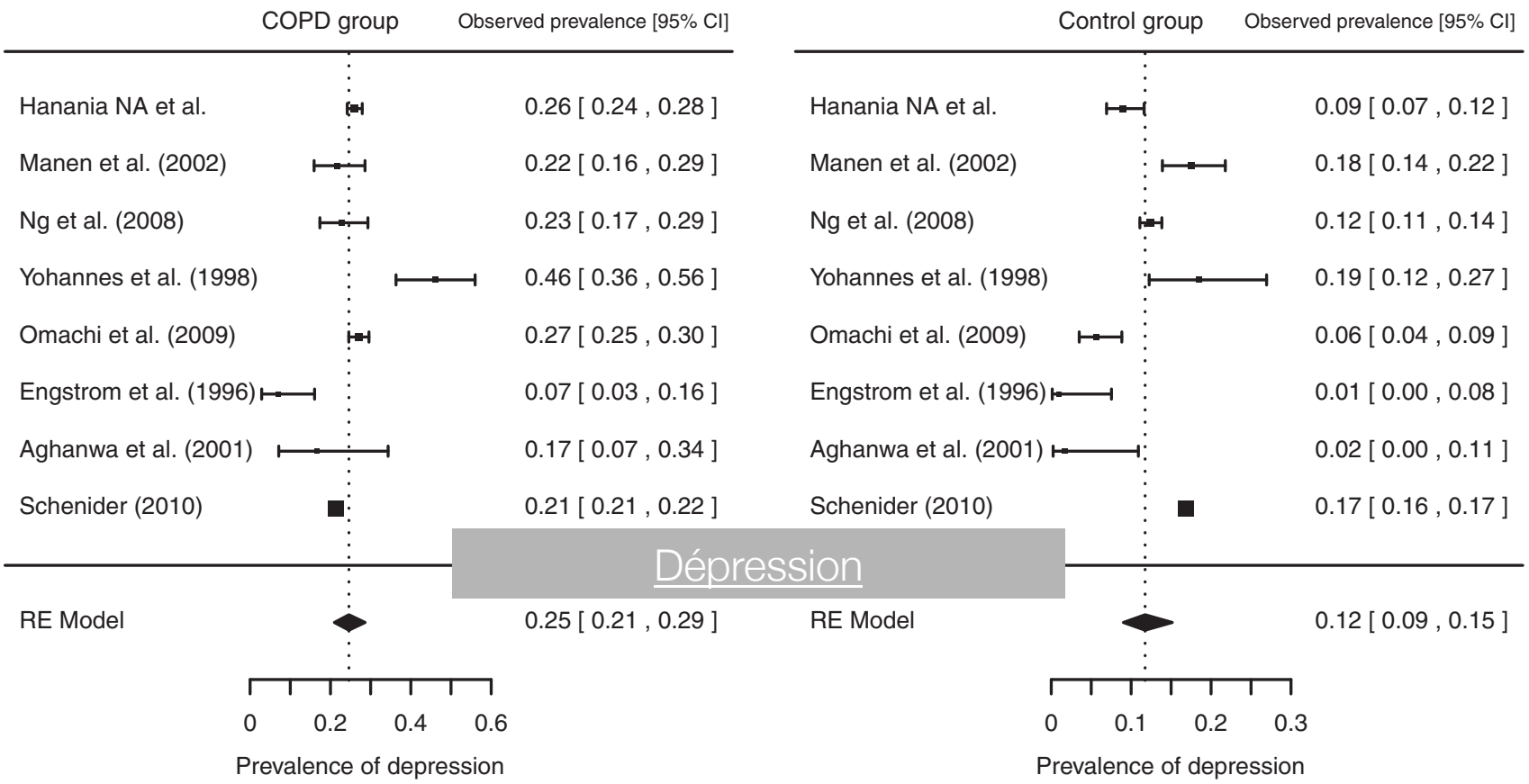


Fig. 2. Forest plot comparing the prevalence of depressive symptoms among COPD patients versus controls without COPD.

Pooled odds ratio: 2.81 (95% CI: 1.69 - 4.66)

Gen Hosp Psychiatry 2011; 33(3):217-223.

Long-term Course of Depression Trajectories in Patients With COPD

A 3-Year Follow-up Analysis of the Evaluation of COPD Longitudinally to Identify Predictive Surrogate Endpoints Cohort

Abebaw M. Yohannes, PhD, FCCP; Hana Müllerová, PhD; Nicola A. Hanania, MD, FCCP; Kim Lavoie, PhD; Ruth Tal-Singer, PhD; Jorgen Vestbo, MD; Steven I. Rennard, MD; and Emil F. M. Wouters, MD

TABLE 1] Depressive Symptom Load as Measured by CES-D Score at Baseline and Its Changes at 3-Year Follow-up, by Depression Trajectory Group

Depression Group	No.	(%) (N = 1,589)	Baseline CES-D, Mean (SD)	Change in CES-D (Baseline to 3-Year Follow-up Visit), Mean (SD)
Never	869	54.7	6.0 (4.4)	0.6 (5.2)
Persistent	377	23.7	20.0 (10.5)	0.7 (10.1)
New onset	226	14.2	9.0 (4.4)	11.1 (7.4)
Remittent	117	7.4	19.5 (14.0)	−10.4 (8.3)

CES-D = Center for Epidemiologic Studies Depression Scale.

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24% of COPD patients with baseline elevated depressive symptoms had persistent depressive symptoms during the 3-year follow-up period

CHEST 2016; 149(4):916-926

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TABLE 4] Factors Associated With Persistent, New Onset, and Remittent Depression by Using the CES-D Definition for Depression[a]

	Comparison: Never Depressed					
	Persistent		New Onset		Remittent	
Factors Significant in at Least One Model	CES-D Only	CES-D/AD	CES-D Only	CES-D/AD	CES-D Only	CES-D/AD
Age (per 1-year increase)	…	0.97 (0.95-0.99)	…	…	…	…
Sex (reference: male)	2.07 (1.18-3.63)	2.95 (2.05-4.24)				
SGRQ score per 4-point increase	1.27 (1.16-1.39)	1.08 (1.03-1.14)				
FACIT-F score per 1-point increase	0.86 (0.83-0.89)	0.90 (0.87-0.92)		0.95 (0.93-0.97)	0.89 (0.87-0.91)	0.91 (0.89-0.93)
mMRC breathlessness (reference: mMRC = 0 or 1)	0.48 (0.26-0.87)	…		1.57 (1.07-2.31)	…	…
Chronic bronchitis symptoms (yes vs no)	…	…	…	…	1.83 (1.12-3.01)	…
History of physician-diagnosed stroke (yes vs no)	…	3.09 (1.43-6.67)				
History of physician-diagnosed peptic ulcer (yes vs no)	2.14 (1.04-4.43)	…				
CCL18, ng/mL, scaled by 1 log SD increase	…	1.28 (1.07-1.53)	…	…	…	…
Platelet levels at baseline per increase of 10^9/L	…	…	…	…	1.05 (1.02-1.09)	1.06 (1.02-1.09)

OR = 2.95 (2.05 – 4.24)

OR = 3.09 (1.43 – 6.67)

Data are presented as OR (95% CI). Models were adjusted for variables associated with the outcome at the $P < .06$ level in bivariate analysis. Additionally, all models were adjusted for age, sex, smoking status, BMI, and country; country effect is not shown. AD = antidepressants. See Table 2 legend for expansion of other abbreviations.

[a]CESD only (n = 1,304). Antidepressant users at baseline and end of study (n = 285) were excluded.

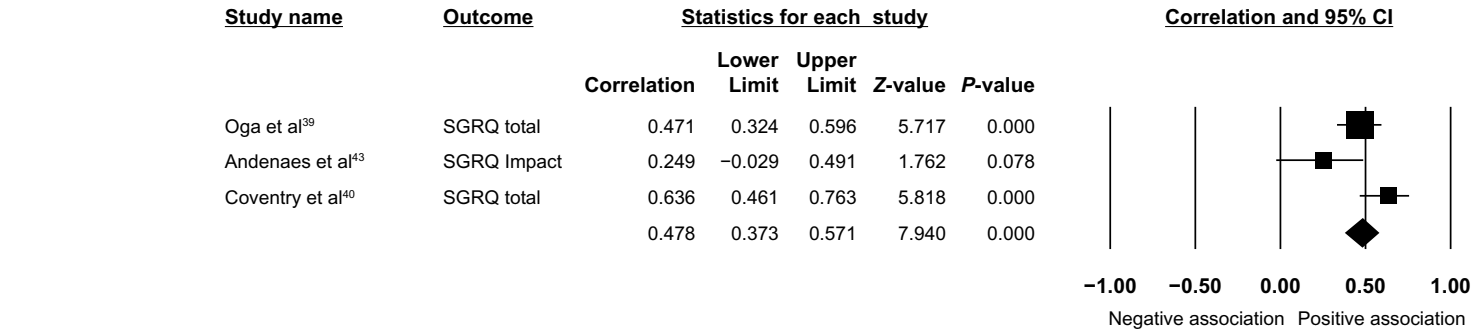
Impacts?

Impacts?

Sur la qualité de vie

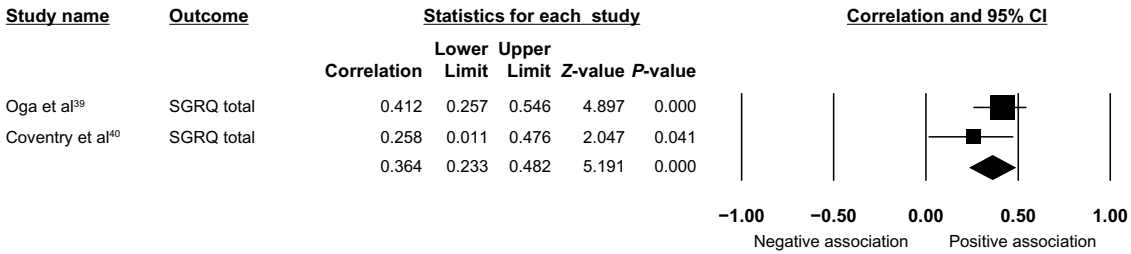
Depression and anxiety predict health-related quality of life in chronic obstructive pulmonary disease: systematic review and meta-analysis

Amy Blakemore[1,2]
Chris Dickens[3]
Else Guthrie[2]
Peter Bower[1]
Evangelos Kontopantelis[1]
Cara Afzal[2]
Peter A Coventry[4]



Dépression

Figure 2 Forest plot of the longitudinal effect of depression on health-related quality of life in COPD.
Notes: Heterogeneity χ^2=6.60 (*df*=2); *P*=0.037; I^2=69.7%.
Abbreviations: CI, confidence interval; COPD, chronic obstructive pulmonary disease; SGRQ, St George's Respiratory Questionnaire.



Anxiété

Figure 3 Forest plot of the longitudinal effect of anxiety on health-related quality of life in COPD.
Notes: Heterogeneity χ^2=1.22 (*df*=1); *P*=0.269; I^2=18.3%.
Abbreviations: CI, confidence interval; COPD, chronic obstructive pulmonary disease; SGRQ, St George's Respiratory Questionnaire; HAD-A, Hospital Anxiety and Depression Scale anxiety subscale.

International Journal of COPD 2014:9 501–512

Impacts?

Sur l’utilisation des services de soin

Impacts?

Sur l’utilisation des services de soin

dans l’asthme

Excess medical costs in patients with asthma and the role of comorbidity

Wenjia Chen[1,2], Larry D. Lynd[1,3], J. Mark FitzGerald[2,4], Carlo A. Marra[5], Robert Balshaw[6], Teresa To[7], Hamid Tavakoli[2,4] and Mohsen Sadatsafavi[1,2,4] for the Canadian Respiratory Research Network

TABLE 1 Baseline characteristics of the asthma cohort and the non-asthma comparison group

	Study cohort		Standardised difference[¶]
	Asthma	Non-asthma[#]	
Subjects	134 941	134 941	
Age years	27.7±15.8	27.6±15.6	0.01
Age group			0.07
5—18 years	37.0%	34.4%	
19—45 years	45.4%	49.1%	
>45 years	17.5%	16.5%	
Female	56.1%	56.7%	0.01
CCI[+,§]	0.2±0.6	0.2±0.8	0.00
Non-asthma inpatient visits[§] (SD)	0.1±0.5	0.1±0.5	−0.01
Non-asthma outpatient visits[§] (SD)	10.4±12.8	10.8±14.1	−0.03
Non-asthma prescriptions[§] (SD)	9.6±44.8	8.3±42.2	0.03
Neighbourhood household income quintiles			0.05
Q1: lowest quintile (lowest 20%)	20.2%	18.9%	
Q2: second quintile (20—40%)	20.5%	19.8%	
Q3: middle quintile (40—60%)	19.9%	20.1%	
Q4: fourth quintile (60—80%)	19.4%	20.5%	
Q5: top quintile (80—100%)	18.0%	19.0%	
Missing	2.0%	1.7%	

Data are presented as mean±SD, unless otherwise stated. CCI: Charlson comorbidity index; Q: quintile. [#]: from 31 372 unique individuals selected with replacement for matching. [¶]: difference in means or proportions divided by standard error. Imbalance was defined as absolute value >0.10. [+]: excluding asthma from the score. [§]: measured in the past 12 months before the index date.

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Score de propension incluant l'age, sexe, revenus des foyers dans le quartier, zone d'accès aux soins, comorbités dans l'année précédente

Eur Respir J 2016; In press

Excess medical costs in patients with asthma and the role of comorbidity

Wenjia Chen[1,2], Larry D. Lynd[1,3], J. Mark FitzGerald[2,4], Carlo A. Marra[5], Robert Balshaw[6], Teresa To[7], Hamid Tavakoli[2,4] and Mohsen Sadatsafavi[1,2,4] for the Canadian Respiratory Research Network

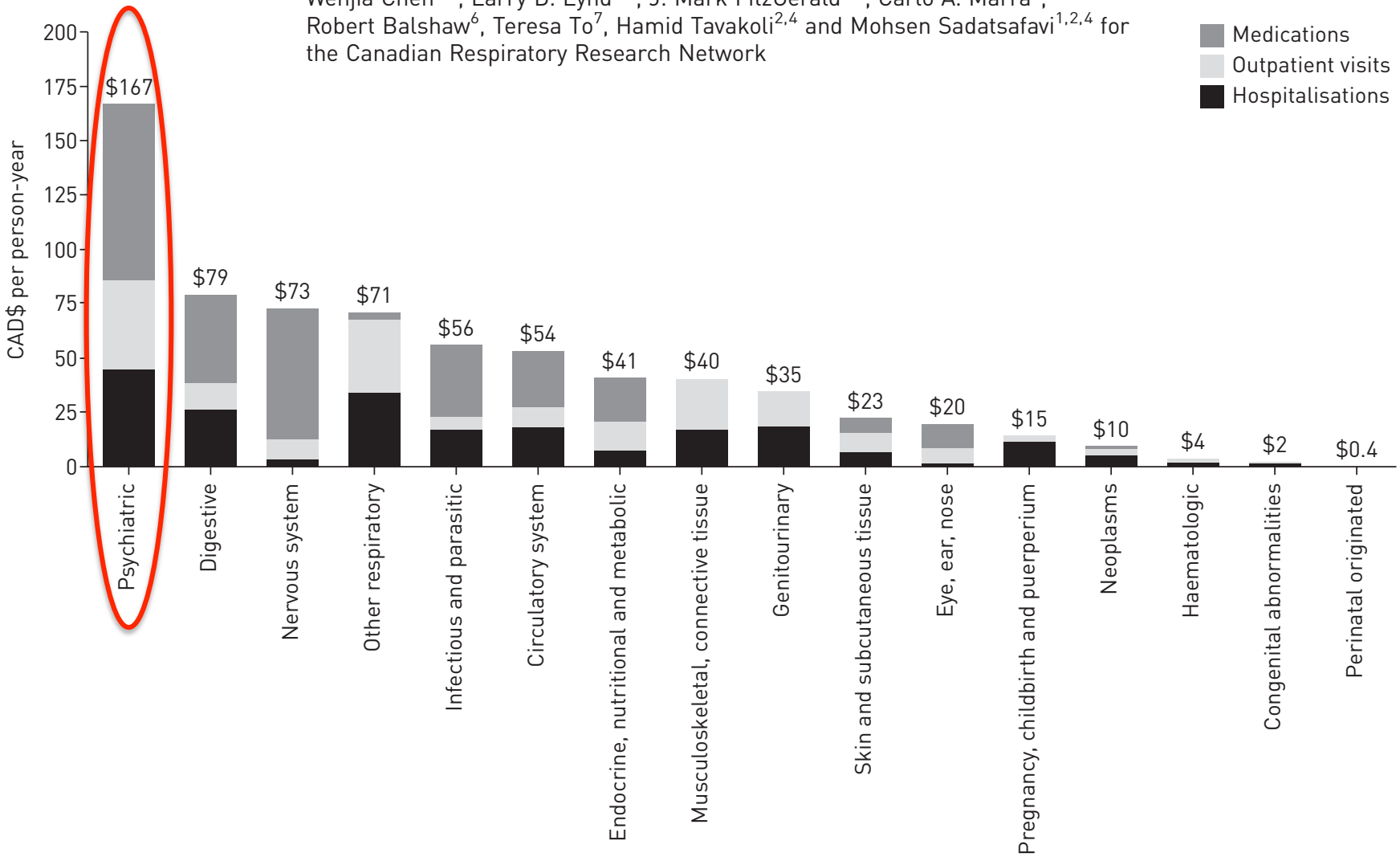

FIGURE 1 Adjusted annual excess costs by attribution to asthma and comorbidities, by cost components.

par groupes d'âge

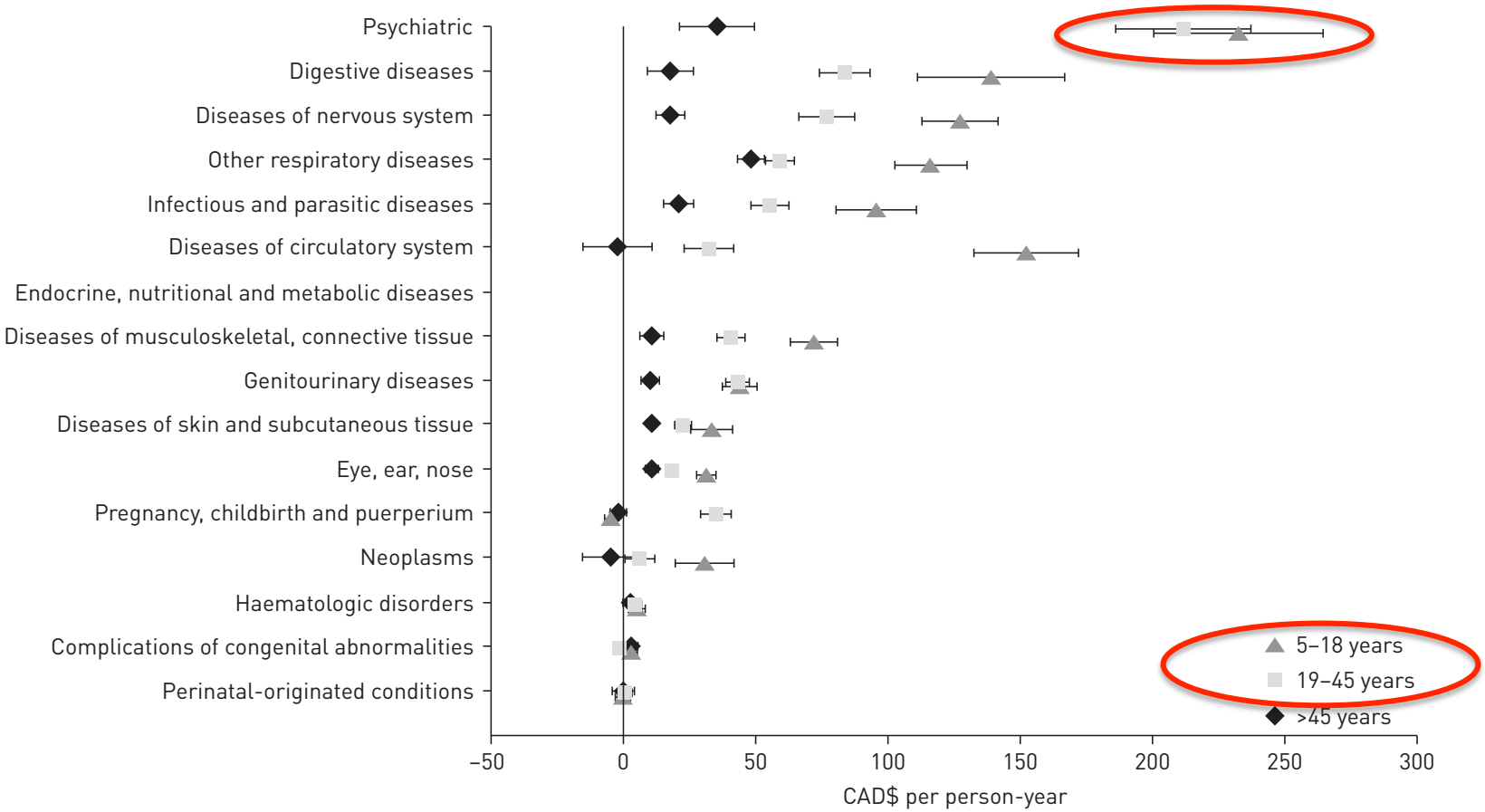

FIGURE 2 Adjusted annual excess costs by attribution to asthma and comorbidities, by age groups.

Eur Respir J 2016; In press

Impacts?

Sur l’utilisation des services de soin

dans la MPOC

Association of Psychological Disorders With 30-Day Readmission Rates in Patients With COPD

Gurinder Singh, MD; Wei Zhang, MS; Yong-Fang Kuo, PhD; and Gulshan Sharma, MD, MPH

TABLE 3] Effect of Coexisting Psychological Disorders on 30-Day Readmission Rate

Coexisting Psychological Condition	No.[a]	30-d Readmission Rate, %
None	14,105	15.49
Depression	2,009	20.98
Anxiety	1,019	20.99
Psychosis	343	19.60
Alcohol use	133	22.54
Drug use	54	21.60
Depression + anxiety	714	24.04
Anxiety + psychosis	71	29.83
Depression + anxiety + psychosis	132	29.73

Percentage of five psychological disorders in different combinations among patients (patients in different years were considered as different patients) with 30-d readmission.

[a]We randomly selected only one index admission per patient per year.

CHEST 2016; 149(4):905-915

TABLE 4] Multivariable, Multilevel Analysis of Patient's Index Hospitalization Characteristics on Odds of Readmission Within 30 Days of Discharge

Variable	Odds of Readmission (95% CI)	
	Model 1 (R^2 = 0.0185)	Model 2 (R^2 = 0.0254)
Age for every 5 y	0.97 (0.96-0.98)[a]	0.99 (0.98-1.00)[b]
DRG	0.99 (0.97-1.02)[b]	1.00 (0.98-1.03)[b]
Sex		
Female	1	1
Male	1.08 (1.05-1.11)[a]	1.15 (1.12 – 1.19)
Race		
White	…	1
Black	…	1.04 (0.99-1.10)[b]
Other		0.91 (0.84-0.98)[a]
Low socioeconomic status		
No		1
Yes		1.22 (1.18 – 1.26)
Length of stay, d		
1-2	1	1
3-5	1.07 (1.03-1.11)[a]	1.07 (1.03-1.11)[a]
5-7	1.23 (1.18-1.28)[a]	1.23 (1.18-1.28)[a]
> 7	1.46 (1.39-1.54)[a]	1.47 (1.40-1.55)[a]
ICU stay		
No	1	1
Yes	1.11 (1.07-1.14)[a]	1.12 (1.08-1.15)[a]

TABLE 4] *(Continued)*

Variable	Odds of Readmission (95% CI)	
	Model 1 (R^2 = 0.0185)	Model 2 (R^2 = 0.0254)
Mechanical ventilation		
No	1	1
Yes	1.00 (0.90-1.10)[b]	1.00 (0.90-1.10)[b]
Discharge destination		
Home	1	1
SNF	0.93 (0.89-0.97)[a]	0.84 (0.81-0.88)[a]
Hospice	0.21 (0.16-0.28)[a]	0.20 (0.16-0.27)[a]
Others	0.75 (0.69-0.81)[a]	0.70 (0.65-0.76)[a]
Outpatient visit		
No	1	1
Yes	0.54 (0.52-0.56)[a]	0.56 (0.55-0.58)[a]
Depression		
No	…	1.34 (1.29 – 1.39)
Yes	…	
Anxiety		
No	…	1.43 (1.37 – 1.50)
Yes	…	
Psychosis		
No	…	1
Yes	…	1.18 (1.10-1.27)[a]
Alcohol abuse		
No	…	1
Yes	…	1.30 (1.15-1.47)[a]
Drug abuse		
No	…	1
Yes	…	1.29 (1.11-1.50)[a]

Data represent odds of readmission (95% CI). Model 1: adjusted by age, sex, region, and year of discharge, length of stay, mechanical ventilator, ICU, discharge destination, and 30-d outpatient follow-up. Model 2: adjusted by Model 1 + race, low socioeconomic status, and coexisting psychological disorders. See Table 1 legend for expansion of abbreviations.

[a]Indicates results are statistically significant.

[b]Indicates results are not statistically significant.

Sur les exacerbations à 1 an

Impact of Anxiety and Depression on Chronic Obstructive Pulmonary Disease Exacerbation Risk

Catherine Laurin[1,2,3,4*], Grégory Moullec[1,2,4*], Simon L. Bacon[1,2,3,4], and Kim L. Lavoie[1,2,3,5]

Hospitalisations pour exacerbations:

- Dépression (RR, 1.12 [1.02 – 1.24])
- Anxiété (1.05 [0.92 – 1.19])
- Dépression & Anxiété (1.18 [1.01 – 1.38]

Am J Respir Crit Care Med 2012; 185(9):918–923.

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Bidirectional Associations Between Clinically Relevant Depression or Anxiety and COPD

A Systematic Review and Meta-analysis

Evan Atlantis, PhD; Paul Fahey, MMedStat; Belinda Cochrane, MD; and Sheree Smith, PhD

COPD-outcomes
(exacerbations and COPD incidence):

- Dépression/Anxiété (RR, 1.43 [1.22 – 1.68])

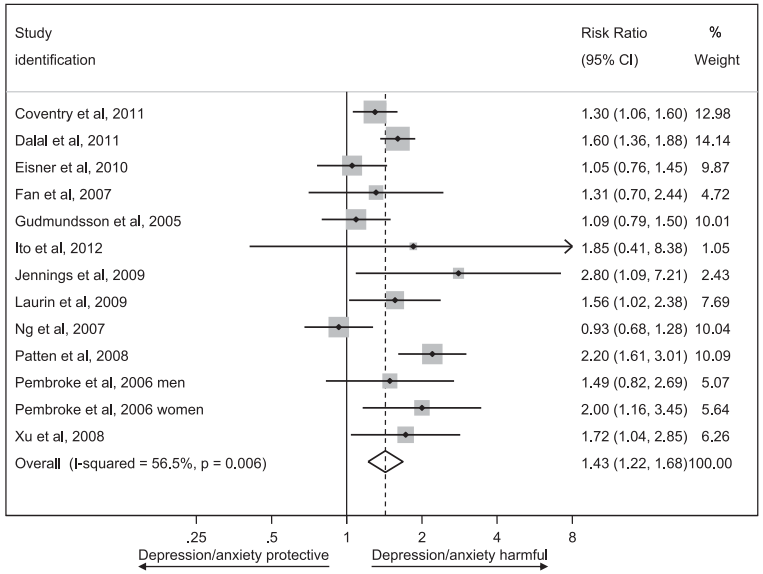

FIGURE 2. Risk ratios for all 13 studies assessing the association between depression or anxiety and risk of COPD outcomes.

CHEST 2013; 144(3):766–777

Impacts?

Sur la perte de productivité au travail

dans l'asthme

Interaction effect of psychological distress and asthma control on productivity loss?

Grégory Moullec[1], J. Mark FitzGerald[1,2], Roxanne Rousseau[1,2], Wenjia Chen[1,3], Mohsen Sadatsafavi[1,2,3] and the Economic Burden of Asthma (EBA) study team[4]

Eur Respir J. 2015 Jun;45(6):1557-65

TABLE 3 Results of the multivariate regression analysis of psychological distress status on productivity loss by asthma control levels

	No psychological distress			Psychological distress		
	Absenteeism	Presenteeism	Overall productivity	Absenteeism	Presenteeism	Overall productivity
Controlled asthma						
Adjusted incremental effect on hours of productivity loss per week						
Adjusted incremental effect on productivity loss ($2010) per week						
Partially controlled asthma						
Adjusted incremental effect on hours of productivity loss per week						
Adjusted incremental effect on productivity loss ($2010) per week						
Uncontrolled asthma						
Adjusted incremental effect on hours of productivity loss per week						
Adjusted incremental effect on productivity loss ($2010) per week						

Data are presented as mean (95% CI). Values were adjusted for sex, age at baseline visit, household income, education, foreign born, type of residence (urban/rural), adherence to asthma medication and comorbidities.

TABLE 3 Results of the multivariate regression analysis of psychological distress status on productivity loss by asthma control levels

	No psychological distress			Psychological distress		
	Absenteeism	Presenteeism	Overall productivity	Absenteeism	Presenteeism	Overall productivity
Controlled asthma						
Adjusted incremental effect on hours of productivity loss per week				4.9 (4.6–5.3)	5.7 (5.4–6.0)	10.6 (10.1–11.1)
Adjusted incremental effect on productivity loss ($2010) per week				196 (182–211)	269 (255–283)	465 (445–485)
Partially controlled asthma						
Adjusted incremental effect on hours of productivity loss per week	−2.1 (−2.2 to −1.9)	3.0 (2.9–3.2)	1.0 (0.8–1.2)	0.5 (0.3–0.7)	5.2 (5.0–5.4)	5.7 (5.4–7.4)
Adjusted incremental effect on productivity loss ($2010) per week	−82 (−89 to −75)	144 (138–150)	62 (53–71)	19 (10–27)	248 (239– 258)	267 (255–341)
Uncontrolled asthma						
Adjusted incremental effect on hours of productivity loss per week	−0.6 (−0.8 to −0.4)	6.6 (6.4–6.7)	5.9 (5.7–6.2)	1.1 (0.9–1.3)	8.5 (8.3–8.7)	9.6 (9.4–9.9)
Adjusted incremental effect on productivity loss ($2010) per week	−25 (−32 to −17)	311 (303–318)	286 (276–297)	45 (37–53)	404 (395–413)	449 (437–462)

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Impacts?

Sur les saines habitudes de vie

Activité physique

International Journal of COPD

Dovepress

open access to scientific and medical research

Open Access Full Text Article

ORIGINAL RESEARCH

Depression symptoms reduce physical activity in COPD patients: a prospective multicenter study

Iván Dueñas-Espín[1–5]
Heleen Demeyer[6]
Elena Gimeno-Santos[1–3]
Michael I Polkey[7]
Nicholas S Hopkinson[7]
Roberto A Rabinovich[8]
Fabienne Dobbels[9]
Niklas Karlsson[10]
Thierry Troosters[6,11]
Judith Garcia-Aymerich[1–3]

On behalf of the PROactive Consortium

Goal: determine the effect of anxiety and depression symptoms (*HADS*) on future physical activity (*steps/day and time in locomotion*), in patients with COPD

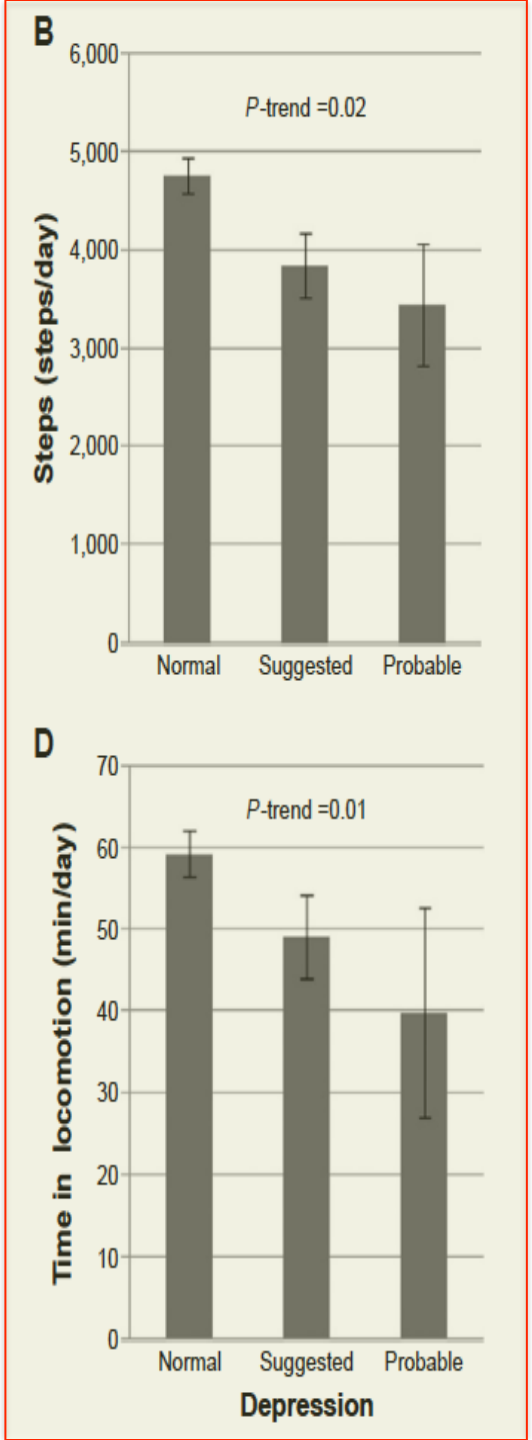
Design: 12-mo prospective cohort study

Participants: 220 COPD patients recruited from tertiary hospitals, rehabilitation centers, and primary care settings from Athens (Greece), Edinburgh and London (UK), Leuven (Belgium), and Groningen (the Netherlands).

International Journal of COPD 2016:11 1287–1295

- 0–7 normal,
- 8–10 suggested
- and >11 probable

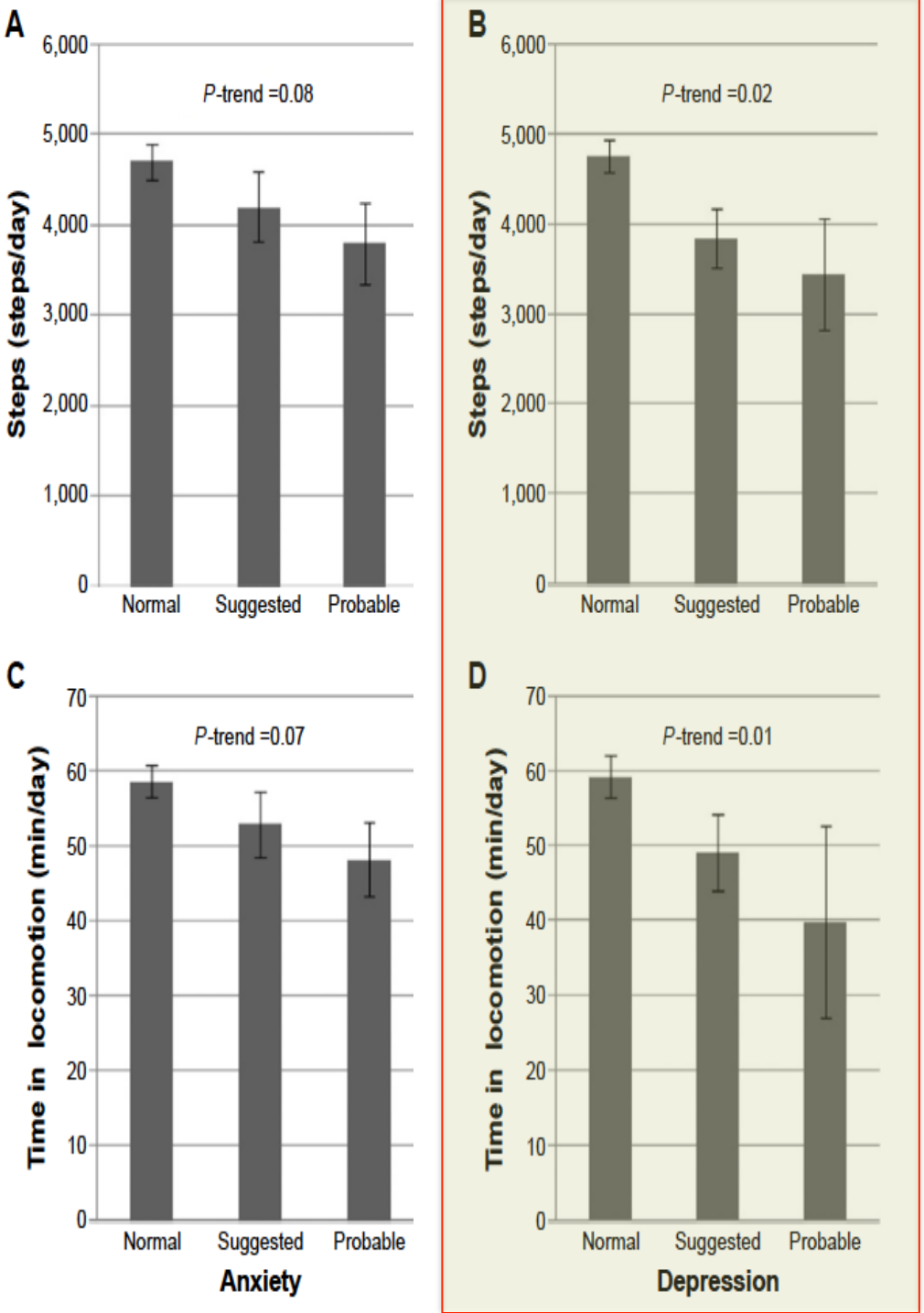
* adjusted for age, 6MWD, comorbidities, FEV_1 (% pred), baseline PA values



- 0–7 normal,
- 8–10 suggested
- and >11 probable

patients walked 70 steps/day less for each extra point on the HADS-D score*

* adjusted for age, 6MWD, comorbidities, FEV_1 (% pred), baseline PA values



- 0–7 normal,
- 8–10 suggested
- and >11 probable

patients walked 70 steps/day less for each extra point on the HADS-D score*

HADS-A score **was not** statistically associated with any PA outcome in multivariable models

* adjusted for age, 6MWD, comorbidities, FEV_1 (% pred), baseline PA values

Impacts?

Sur la mortalité

Bidirectional Associations Between Clinically Relevant Depression or Anxiety and COPD

A Systematic Review and Meta-analysis

Evan Atlantis, PhD; Paul Fahey, MMedStat; Belinda Cochrane, MD; and Sheree Smith, PhD

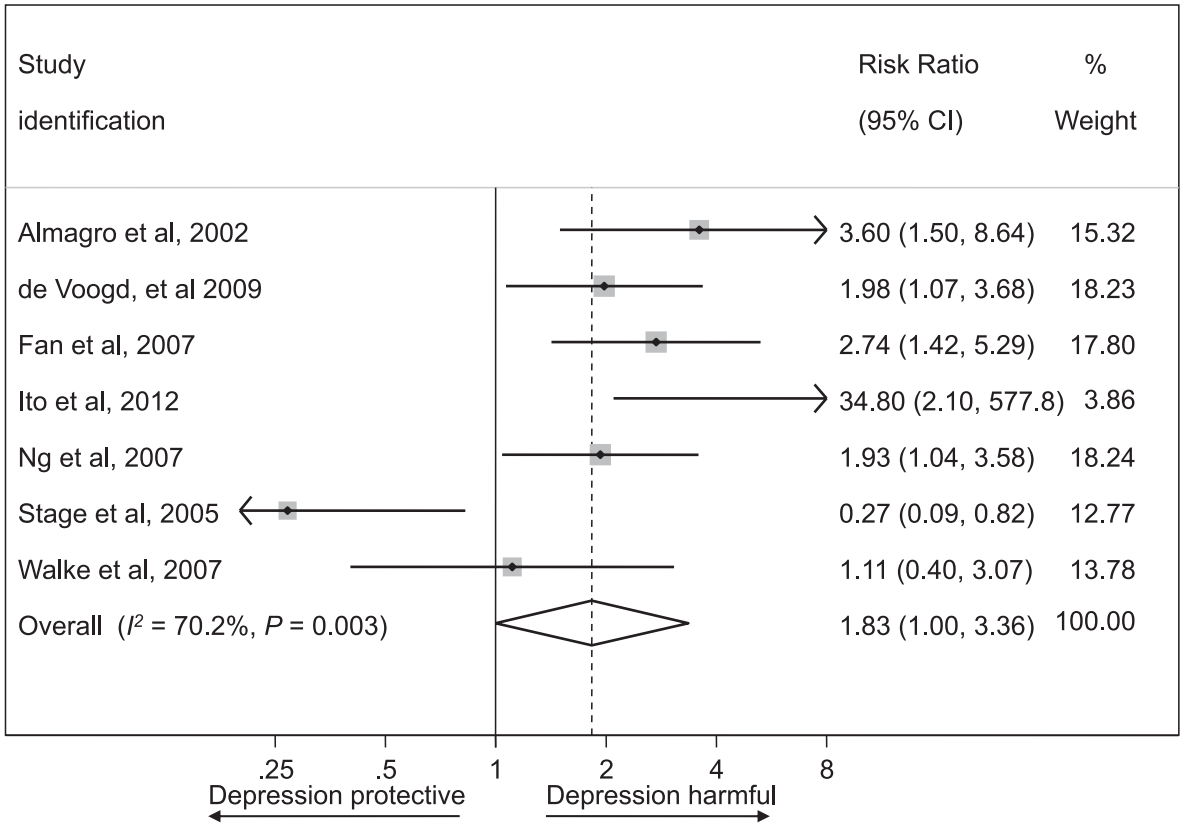


FIGURE 4. Risk ratios for all seven studies assessing the association between comorbid depression in COPD and risk of mortality.

Bidirectional Associations Between Clinically Relevant Depression or Anxiety and COPD

A Systematic Review and Meta-analysis

Evan Atlantis, PhD; Paul Fahey, MMedStat; Belinda Cochrane, MD; and Sheree Smith, PhD

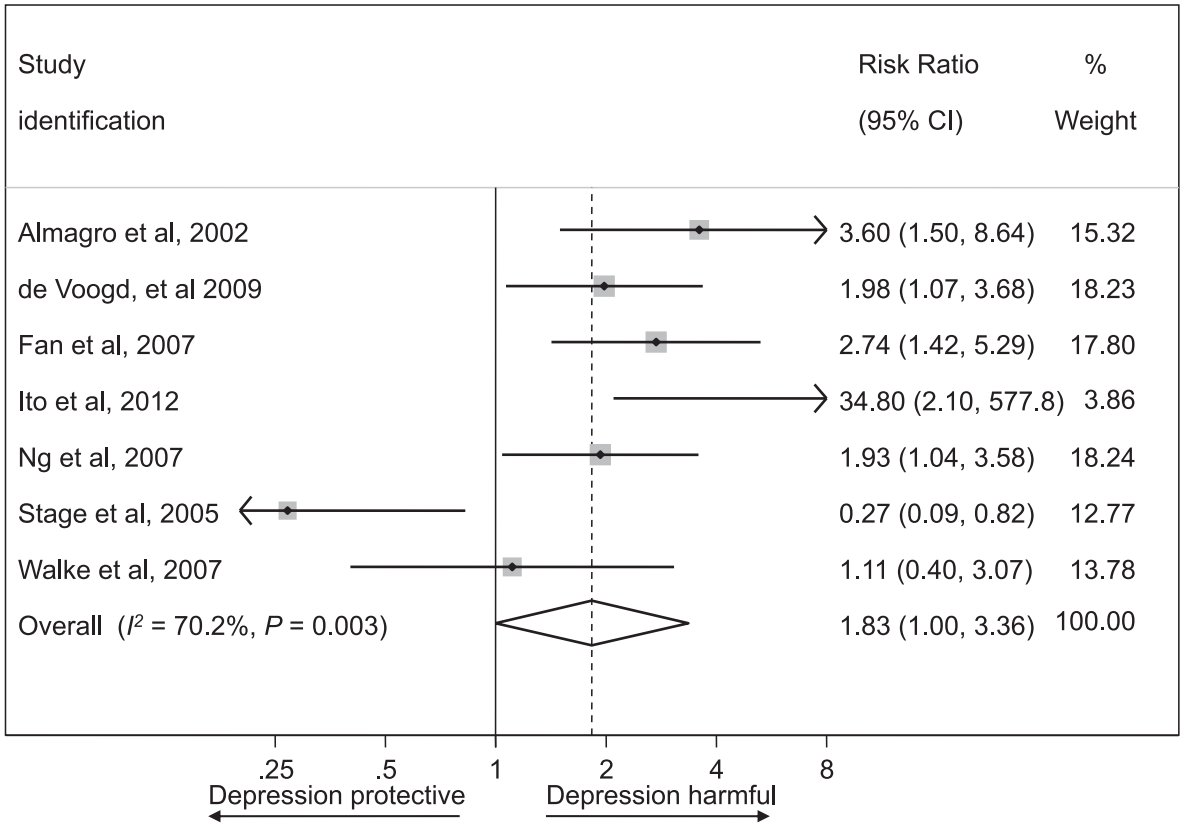


FIGURE 4. Risk ratios for all seven COPD and risk of mortality.

Mortalité :

- Dépression/Anxiété (RR, 1.83 [1.00 – 3.36])

Hospitalisation for chronic obstructive pulmonary disease and risk of suicide: a population-based case–control study

Jennie Maria Christin Strid,[1,2] Christian Fynbo Christiansen,[1] Morten Olsen,[1] Ping Qin[3,4]

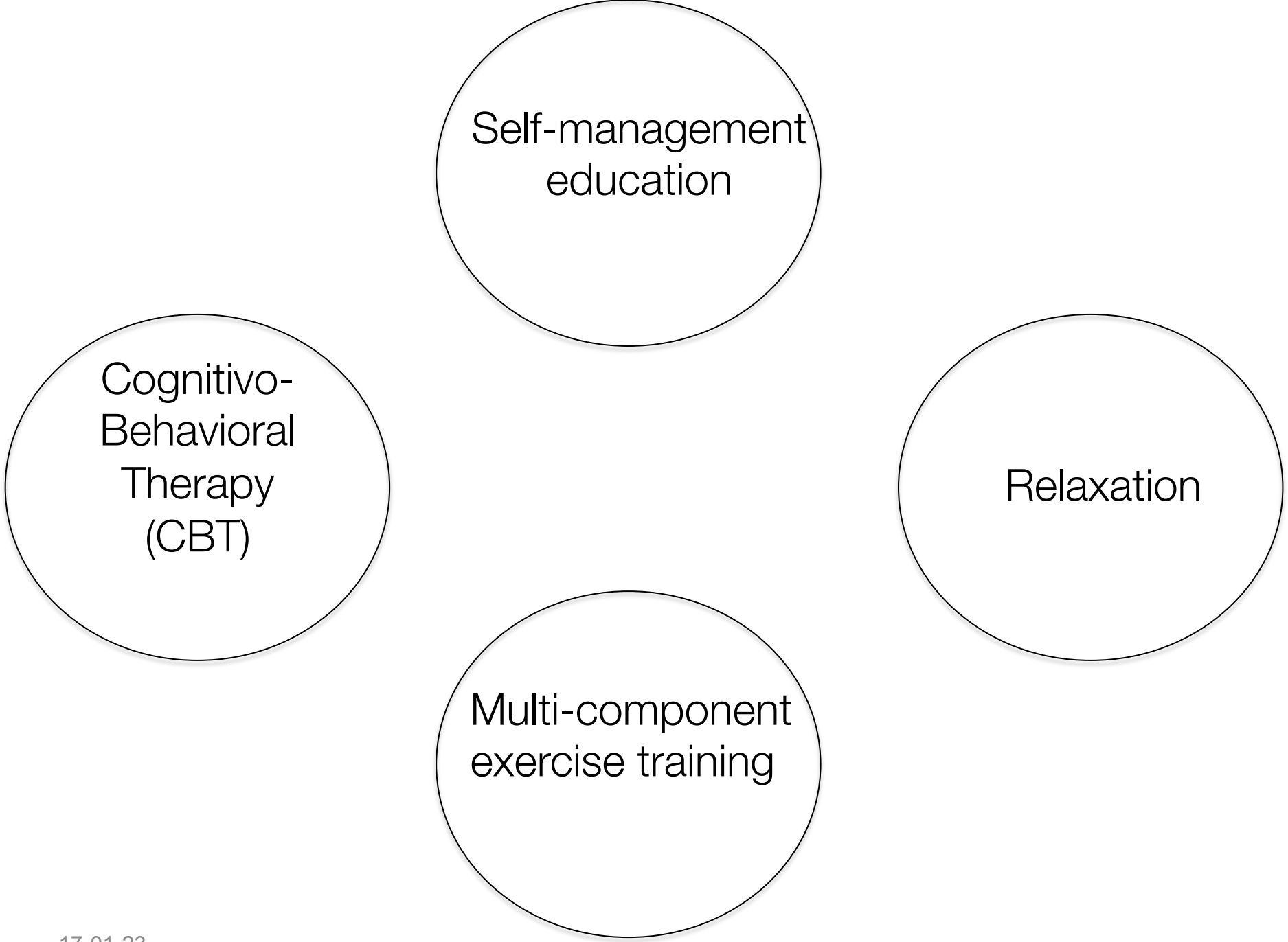
Table 3 Hospitalised COPD and associated OR for subsequent suicide, stratified by gender and age group

	Number distribution (in %)		OR (95% CI) for suicide		
Exposure in study participants	**Suicide cases n=19 869**	**Population controls n=321 867**	**Model I***	**Model II†**	**Model III‡**
Total participants					
History of COPD: no	19 722 (97.0)	318 780 (99.0)	Reference	Reference	Reference
History of COPD: yes	592 (3.0)	3087 (1.0)	2.6 (2.3 to 2.8)	2.1 (1.9 to 2.4)	2.0 (1.8 to 2.2)
Females					
History of COPD: no	7095 (96.9)	122 761 (99.1)	Reference	Reference	Reference
History of COPD: yes	226 (3.1)	1109 (0.9)	3.3 (2.8 to 3.8)	2.4 (2.0 to 2.9)	2.3 (2.0 to 2.8)
Males					
History of COPD: no	12 182 (97.1)	196 019 (99.0)	Reference	Reference	Reference
History of COPD: yes	366 (2.9)	1978 (1.0)	2.2 (2.0 to 2.5)	2.0 (1.8 to 2.3)	1.9 (1.6 to 2.1)
40–60 year olds					
History of COPD: no	10 761 (98.9)	206 270 (99.6)	Reference	Reference	Reference
History of COPD: yes	116 (1.1)	772 (0.4)	2.8 (2.3 to 3.5)	1.6 (1.3 to 2.1)	1.5 (1.2 to 1.9)
61–95 year olds					
History of COPD: no	8516 (94.7)	112 510 (98.0)	Reference	Reference	Reference
History of COPD: yes	476 (5.3)	2315 (2.0)	2.4 (2.3 to 2.8)	2.3 (2.0 to 2.5)	2.2 (2.0 to 2.5)

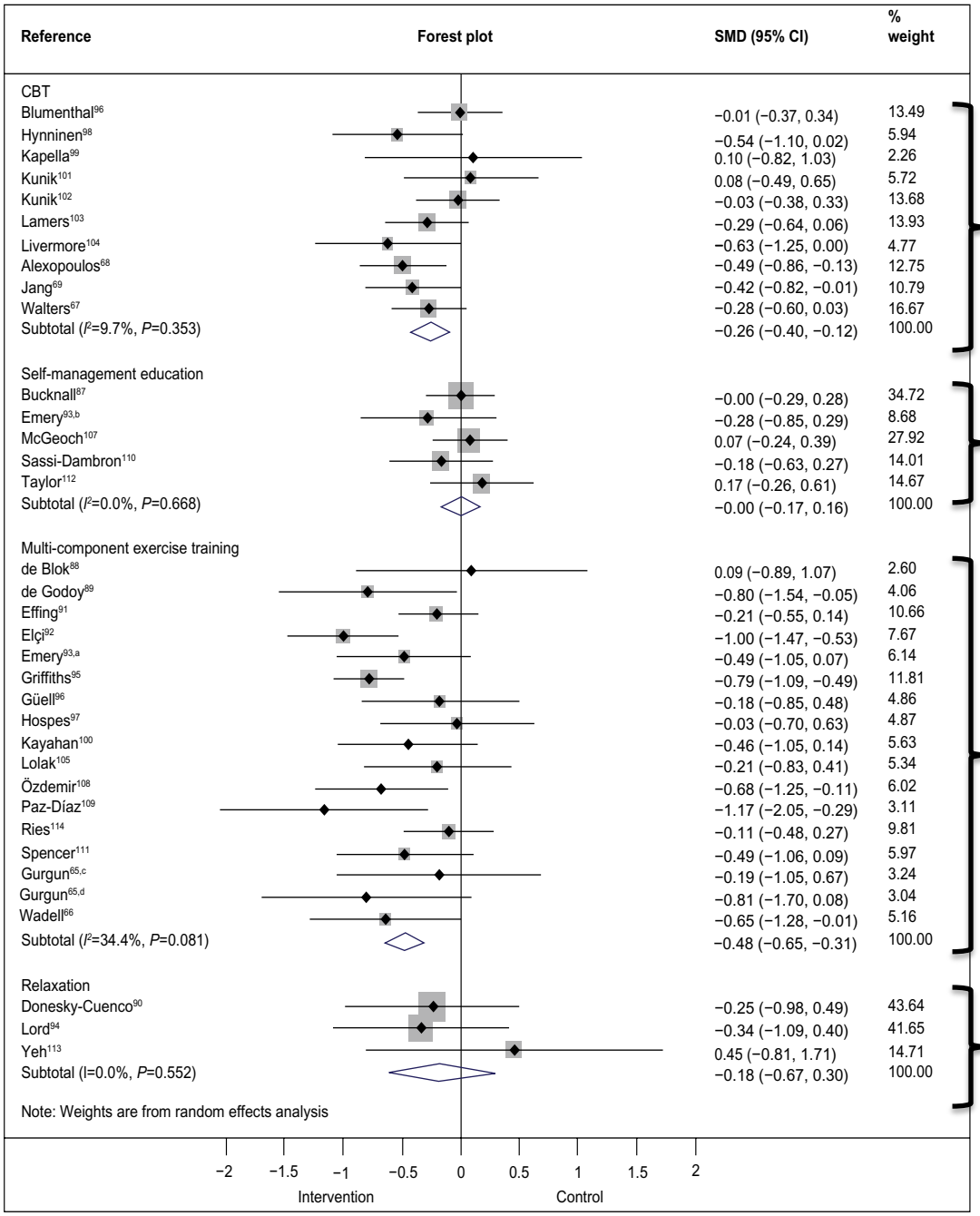
*Adjusted only for sex, age and birth date through matching.
†Further adjusted for history of psychiatric illness.
‡Moreover adjusted for annual income level, place of residence, citizenship and marital status.
COPD, chronic obstructive pulmonary disease.

Comment prendre en charge les comorbidités dépressives et anxieuses?

Illustrations dans la MPOC


Self-management education
Cognitivo-Behavioral Therapy (CBT)
Relaxation
Multi-component exercise training

Non-pharmacological (*n* = 34)



CBT

Self-management

Multi-component exercise training

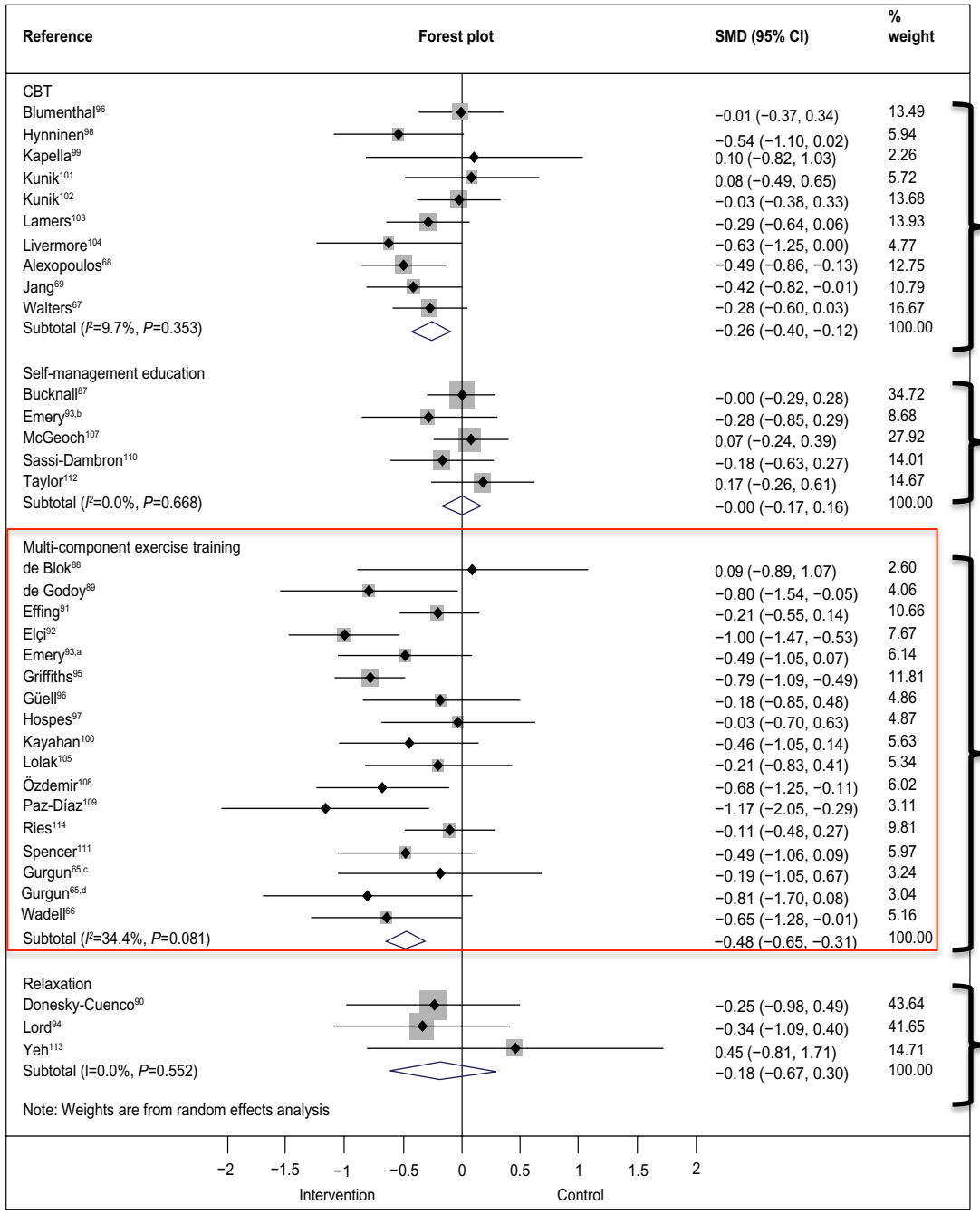
Relaxation

↘ *depressive symptoms*

Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Non-pharmacological (*n* = 34)

- exercise,
- relaxation,
- self-management education



CBT

Self-management

Multi-component exercise training

SMD=0.48

Relaxation

↘ *depressive symptoms*

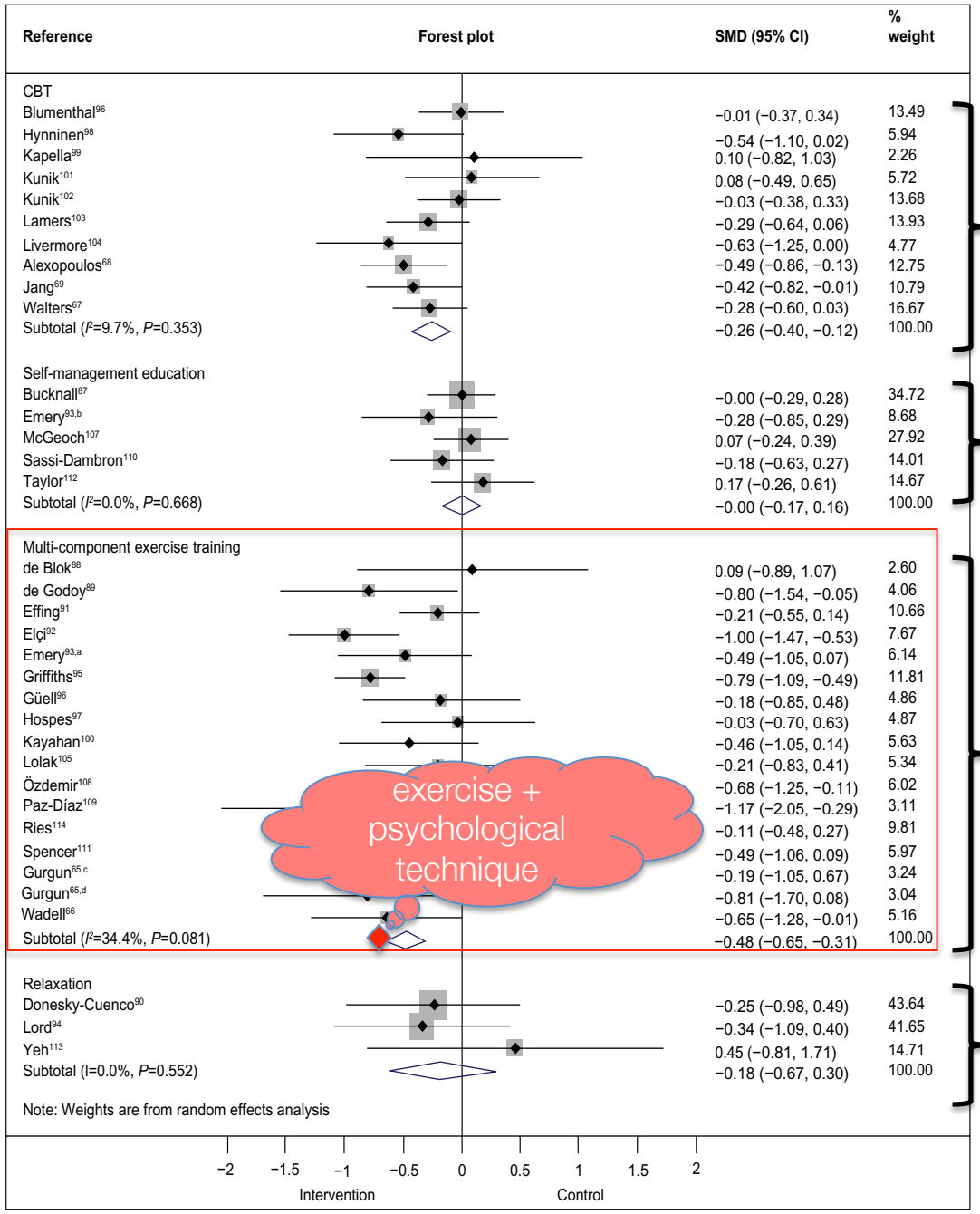
Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Non-pharmacological (*n* = 34)

- exercise,
- relaxation,
- self-management education

- psychological component

↘ *depressive symptoms*



CBT

Self-management

Multi-component exercise training

SMD=0.48

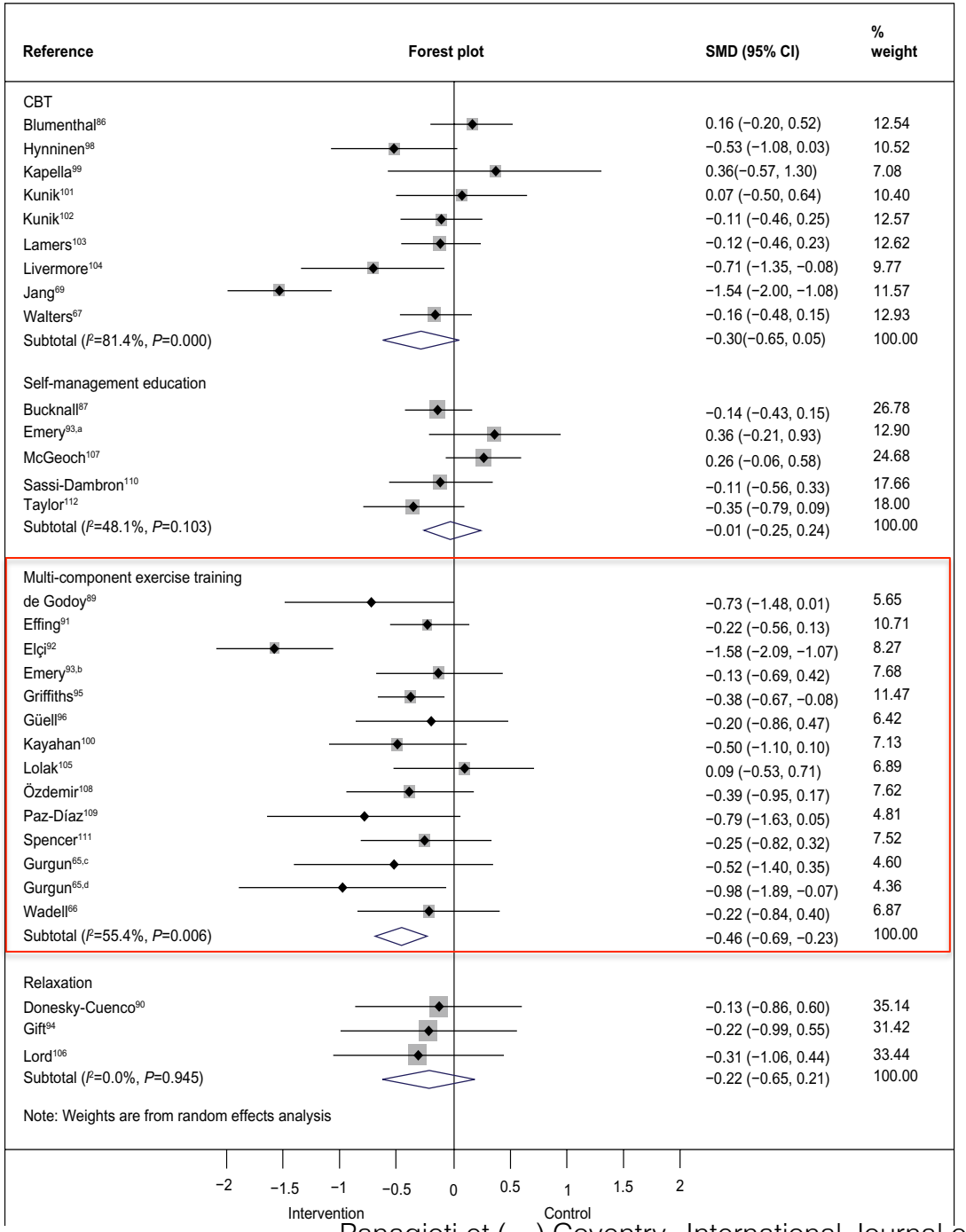
SMD=0.64

Relaxation

Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Non-pharmacological (*n* = 30)

- exercise,
- relaxation,
- self-management education



CBT

Self-management

Multi-component exercise training

SMD=0.46

Relaxation

↘ *anxious symptoms*

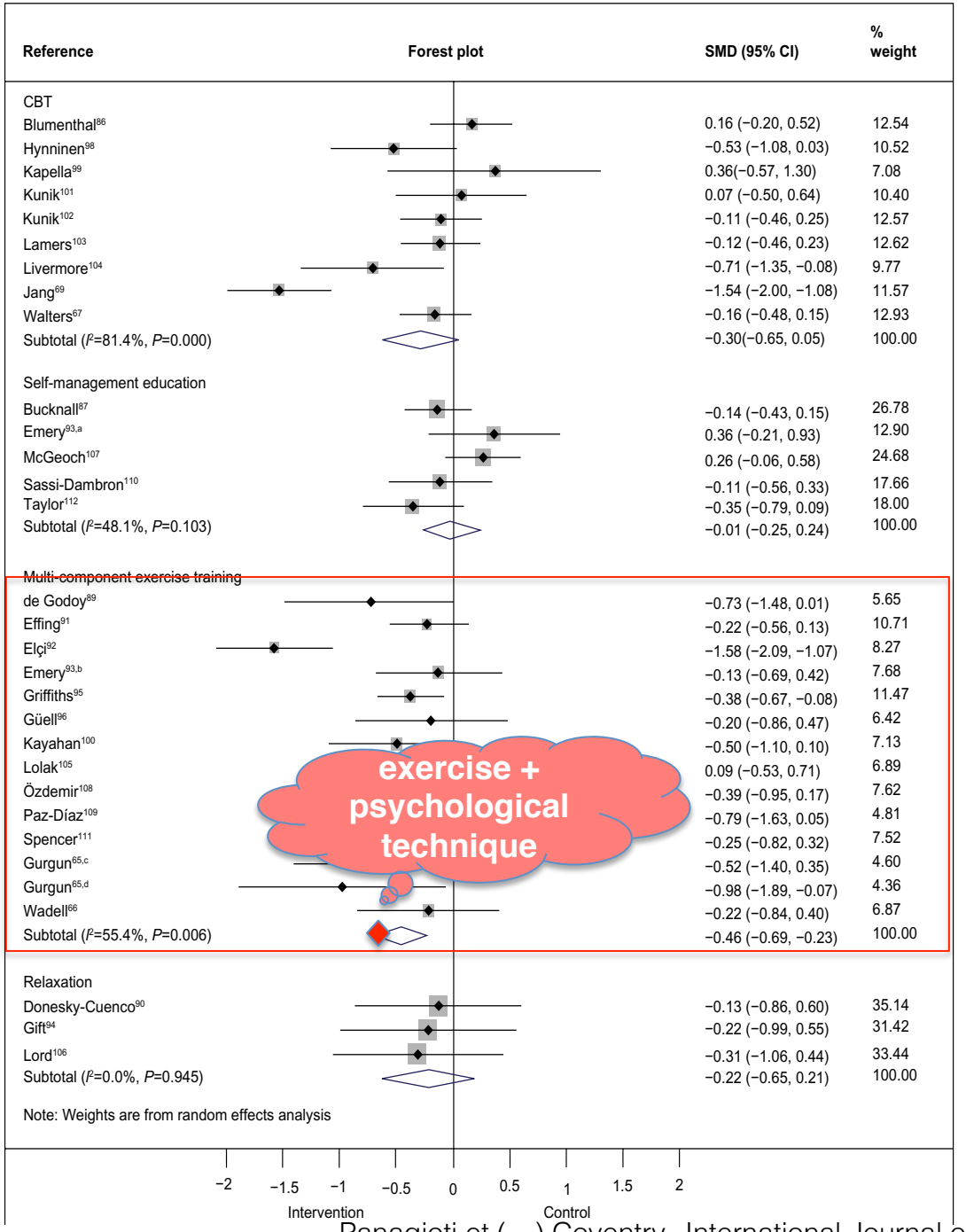
Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Non-pharmacological (*n* = 30)

- exercise,
- relaxation,
- self-management education

- psychological component

↘ *anxious symptoms*



CBT

Self-management

Multi-component exercise training

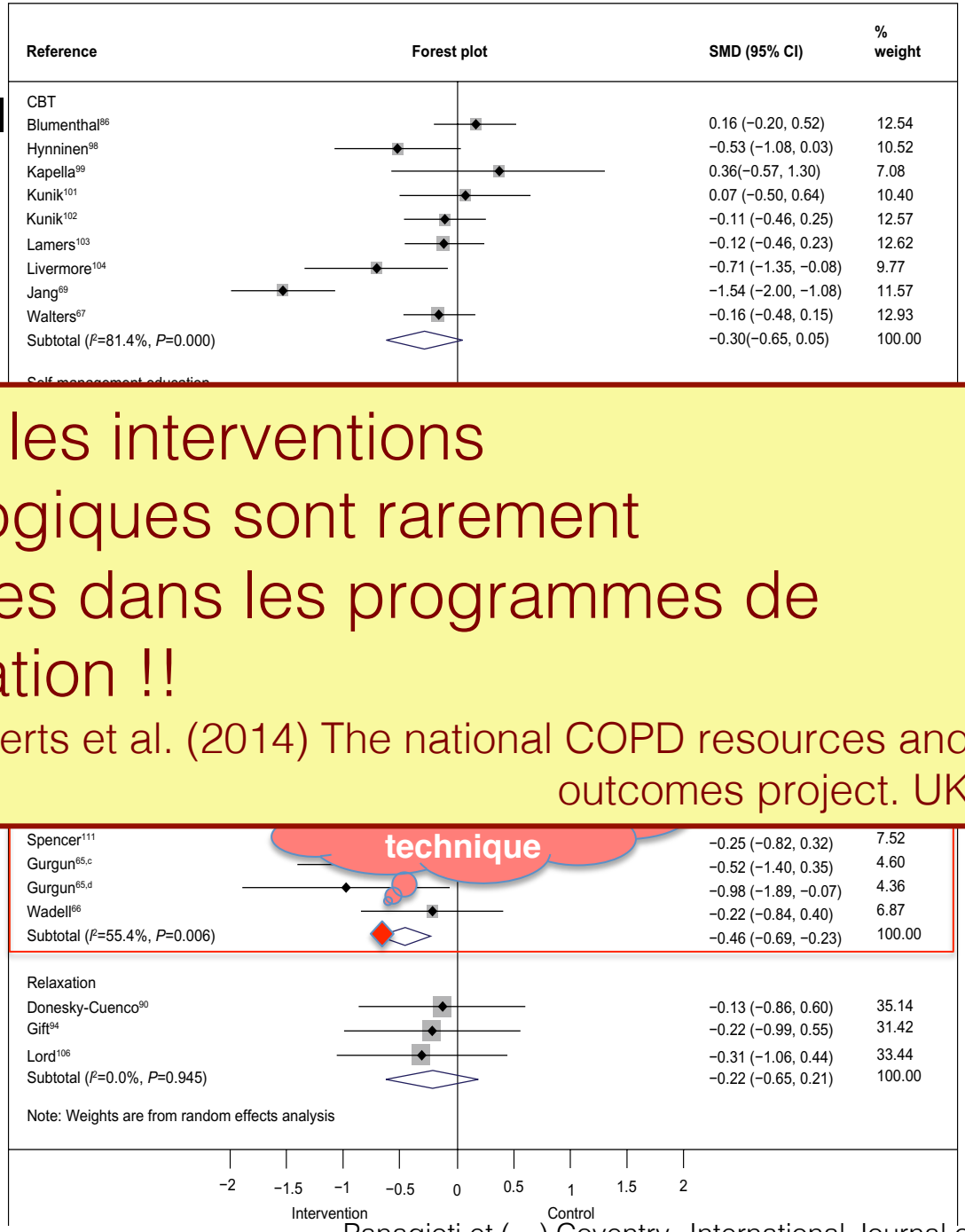
SMD=0.46

SMD=0.59

Relaxation

Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Non-pharmacological (*n* = 30)



Pourtant les interventions psychologiques sont rarement proposées dans les programmes de réadaptation !!

Roberts et al. (2014) The national COPD resources and outcomes project. UK

- psychological component

↘ *anxious symptoms*

CBT

Self-management

Multi-component exercise training

SMD=0.46

SMD=0.59

Relaxation

Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Differential response to pulmonary rehabilitation in COPD: multidimensional profiling

Martijn A. Spruit[1], Ingrid M.L. Augustin[1], Lowie Vanfleteren[1], Daisy J.A. Janssen[1], Swetlana Gaffron[2], Herman-Jan Pennings[3], Frank Smeenk[4], Willem Pieters[5], Jan J.A.M. van den Bergh[6], Arent-Jan Michels[7], Miriam T.J. Groenen[1], Erica P.A. Rutten[1], Emiel F.M. Wouters[1,8] and Frits M.E. Franssen[1] on behalf of the CIRO+ Rehabilitation Network

Spruit et al. 2015 Eur Respir J; 46(6):1625-35.

Differential response to pulmonary rehabilitation in COPD: multidimensional profiling

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Goal: profile a multidimensional response to PR in patients with COPD, including symptoms of dyspnoea, exercise performance, health status, mood status, and problematic activities of daily life

Design: retrospective cohort study

Participants: 2068 patients

Spruit et al. 2015 Eur Respir J; 46(6):1625-35.

Differential response to pulmonary rehabilitation in COPD: multidimensional profiling

- **4 clusters** of patients with substantially different response profiles have been generated.
- The efficacy of the PR programme has been evaluated based on the following MCIDs:

Spruit et al. 2015 Eur Respir J; 46(6):1625-35.

Differential response to pulmonary rehabilitation in COPD: multidimensional profiling

- **4 clusters** of patients with substantially different response profiles have been generated.
- The efficacy of the PR programme has been evaluated based on the following MCIDs:
  - **dyspnoea:** –1 grade on MRC scale;
  - **exercise performance:** +30 m on 6MWD; +100 s on cycle endurance time;
  - **problematic activities of daily life:** +2 points on COPM-P [15]; +2 points on COPM-S (Canadian Occupational Performance Measure (COPM) ;
  - **mood status:** –1.5 points on HADS-A; –1.5 points on HADS-D
  - **health status:** –4 points on SGRQ-T

Spruit et al. 2015 Eur Respir J; 46(6):1625-35.

Differential response to pulmonary rehabilitation in COPD: multidimensional profiling

Spruit et al. 2015 Eur Respir J; 46(6):1625-35.

TABLE 3 Baseline characteristics after stratification for multidimensional response clusters

Baseline	Very good responder	Good responder	Moderate responder	Poor responder
Patients n (%)				
Age years				
Sex % women				
FEV_1 L				
FEV_1 % predicted				
K_{CO} % predicted				
LTOT use % pts				
P_{aO_2} kPa				
P_{aCO_2} kPa				
S_{aO_2} %				
MRC grade				
Exacerbation <12 m n				
Admission <12 m n				
CC index points				
BMI $kg \cdot m^{-2}$				
FFMI $kg \cdot m^{-2}$				
6MWD m				
6MWD % predicted				
PWR watts				
PWR % predicted				
V_{O_2} % predicted				
Ventilation %MVV				
CWRT s				
COPM-P points				
COPM-S points				
HADS-A points				
⩾8 points % pts				
HADS-D points				
⩾8 points % pts				
SGRQ points				
BODE index points				
ADO index points				
Inpatient/outpatient %				

Very good: MCID achieved in 85% of the outcomes

Good: MCID achieved in 60% of the outcomes

Moderate: MCID achieved in 30% of the outcomes

Poor: MCID achieved in 11% of the outcomes

Differential response to pulmonary rehabilitation in COPD: multidimensional profiling

Spruit et al. 2015 Eur Respir J; 46(6):1625-35.

TABLE 3 Baseline characteristics after stratification for multidimensional response clusters

Baseline	Very good responder	Good responder	Moderate responder	Poor responder
Patients n (%)	378 (18.3)	742 (35.9)	731 (35.4)	217 (10.5)
Age years	62.9±8.8	63.7±9.0	64.2±8.7	64.4±9.1
Sex % women	41.8	43.9	42.7	42.4
FEV_1 L	1.31±0.64	1.31±0.54	1.31±0.57	1.27±0.56
FEV_1 % predicted	47.4±20.2	48.9±17.8	48.8±18.3	47.9±18.8
K_{CO} % predicted	67.7±22.7	67.0±23.8	64.9±21.9	64.1±22.2
LTOT use % pts	21.7	15.9	12.2#	12.4#
Pa_{O_2} kPa	9.6±1.4	9.7±1.4	9.6±1.3	9.7±1.3
Pa_{CO_2} kPa	5.2±0.7	5.2±0.6	5.2±0.6	5.3±0.8
Sa_{O_2} %	94.9±2.6	95.0±2.4	95.1±2.1	95.0±2.1
MRC grade	3.7±1.1	3.3±1.1#	3.2±1.1#	3.2±1.1#
Exacerbation <12 m n	2.5±2.6	2.1±2.5	2.0±2.4#	2.0±1.9
Admission <12 m n	1.1±1.8	0.7±1.2#	0.6±1.3#	0.7±1.3#
CC index points	1.4±1.2	1.4±1.2	1.4±1.1	1.4±1.1
BMI $kg \cdot m^{-2}$	26.3±5.6	25.9±5.5	25.1±5.0#,¶	24.8±4.6#,¶
FFMI $kg \cdot m^{-2}$	17.1±2.7	16.8±2.4	16.6±2.3#	16.5±2.2#
6MWD m	405±123	452±113#	461±112#	457±104#
6MWD % predicted	63.3±17.4	71.4±15.6#	72.3±16.0#	71.7±15.7#
PWR watts	68.2±32.3	73.5±31.4	72.9±30.5	70.4±28.3
PWR % predicted	50.5±22.7	59.1±27.0#	57.7±24.3#	57.3±26.3#
V_{O_2} % predicted	64.2±24.6	70.5±32.7	68.3±31.1	69.8±34.1
Ventilation %MVV	84.3±22.3	84.0±21.2	83.9±20.8	87.2±22.6
CWRT s	295±173	320±225	326±265	296±238
COPM-P points	3.8±1.3	4.2±1.3#	4.5±1.3#,¶	4.5±1.4#,¶
COPM-S points	3.2±1.6	3.6±1.7#	4.0±1.7#,¶	4.1±1.8#,¶
HADS-A points	8.4±4.3	7.2±4.2#	6.8±4.3#	6.3±4.3#,¶
⩾8 points % pts	57.0	45.0#	38.0#,¶	36.0#
HADS-D points	8.0±4.1	6.7±4.0#	6.4±4.0#	5.9±3.9#,¶
⩾8 points % pts	55.0	40.0#	36.0#	32.0#
SGRQ points	61.5±15.2	53.6±16.5#	50.2±17.1#,¶	50.4±17.0#
BODE index points	4.0±2.3	3.4±2.1#	3.3±2.1#	3.4±2.0#
ADO index points	4.7±1.8	4.3±1.8#	4.3±1.6#	4.4±1.7
Inpatient/outpatient %	64/36	41/59#	31/69#,¶	25/75#,¶

Very good: MCID achieved in 85% of the outcomes

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L'accès à la réadaptation pulmonaire demeure un problème au Canada!

Camp et al. 2015 Can Respir J; 22(3):147-152.

L'accès à la réadaptation pulmonaire demeure un problème au Canada!

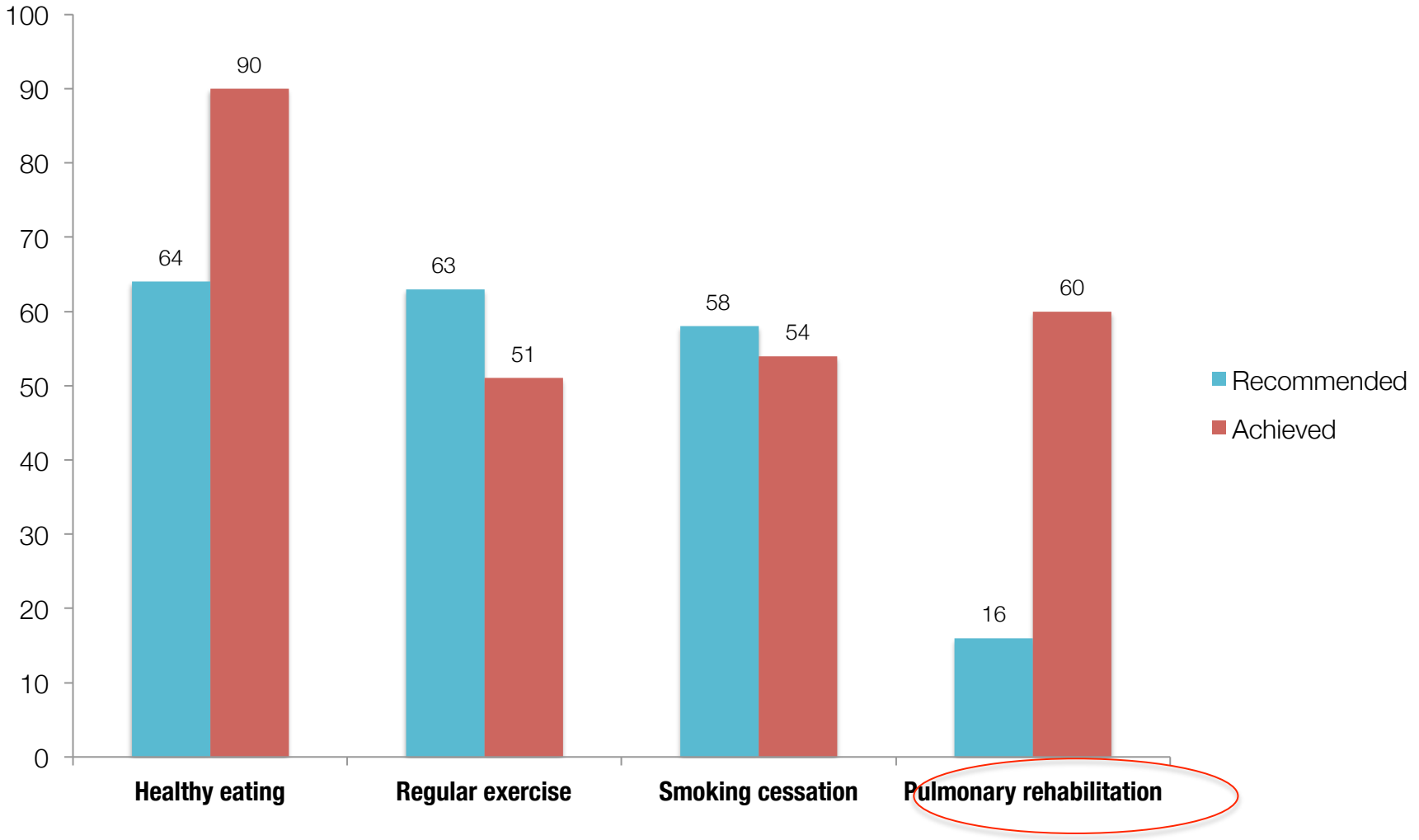
des 155 établissements offrant des programmes de RP:

- Seulement **0,4%** des Canadiens atteints de MPOC y ont accès

- Contraste avec la réadaptation cardiaque:
  - e.g., **34%** des patients cardiaques à risque sont référés en Ontario

Camp et al. 2015 Can Respir J; 22(3):147-152.

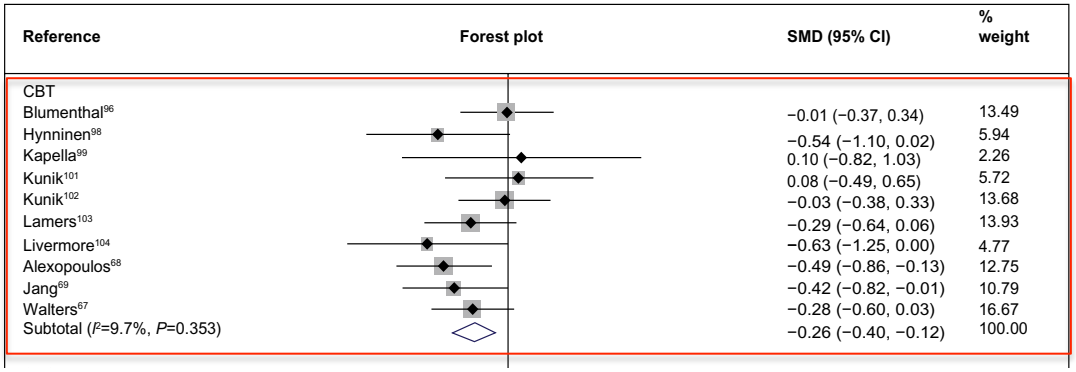
Non-pharmacological advice given vs advice followed for the COPD management



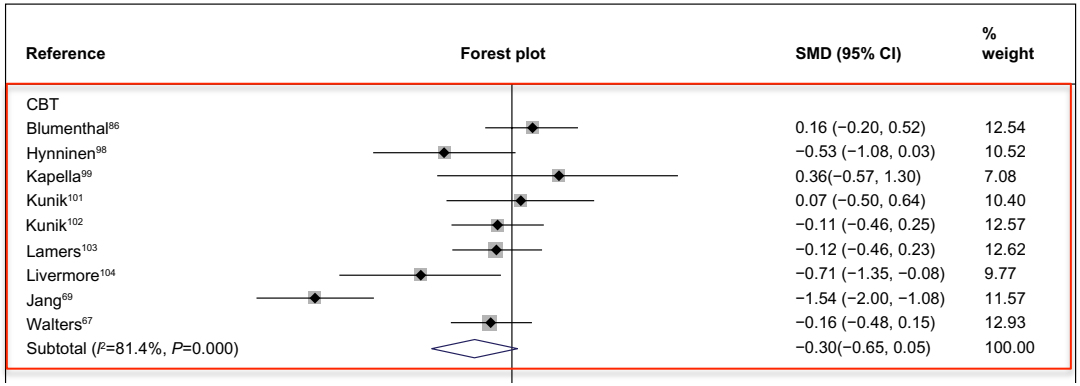
Enquête pan-canadienne sur 389 patients MPOC (échantillonnage aléatoire)

Hernandez et al. 2009 Resp Med; 103, 1004-1012

Cognitive-Behavioral Therapy



↘ *symptômes dépressifs*

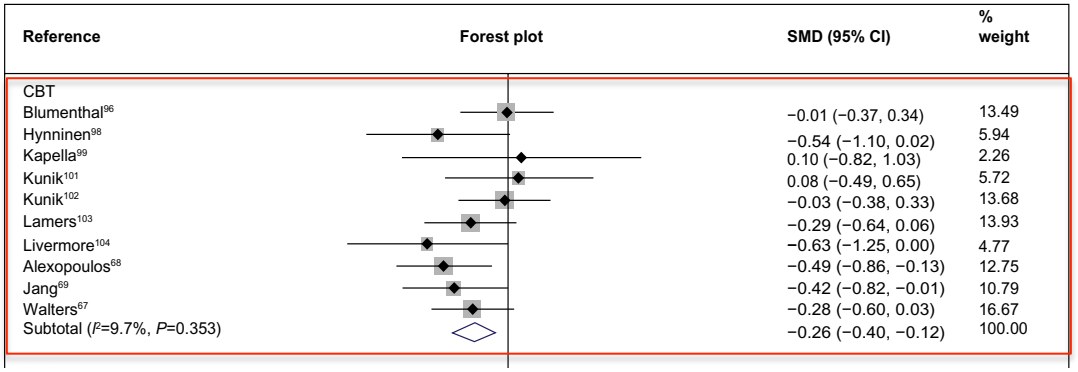


↘ *symptômes anxieux*

- Efficacité <u>bien inférieure</u> à ce qu'on retrouve dans la littérature sur le traitement de la dépression/anxiété dans d'autres maladies physiques chroniques
  - Méta-analyse de Beltman et al. (2010). Br J Psychiatry; 197(1):11-19

Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Cognitive-Behavioral Therapy



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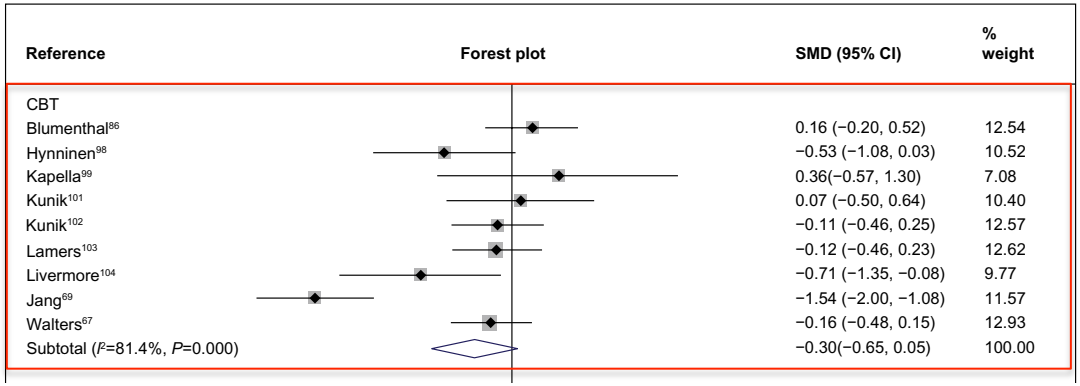

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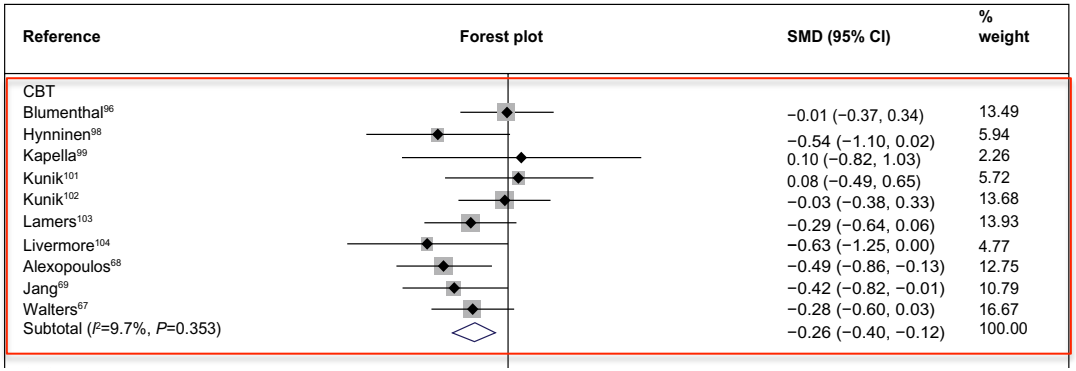
- Techniques de CBT pour combattre les <u>ruminations</u> et les <u>comportements d'évitements</u> pourraient ne pas être efficaces chez les patients MPOC
  - où ces comportements sont déclenchés par des symptômes réels et significatifs de la MPOC comme la DYSPNÉE

Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Cognitive-Behavioral Therapy



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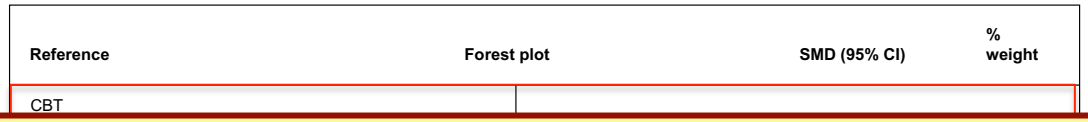

symptômes xieux

Efficacité prometteuse des traitements psychologique de la **3ème vague** centrés sur le **PROCESSUS** des pensées (plutôt que sur le **CONTENU** comme dans le CBT) aident les patients à:

- devenir conscient de leur pensée et les accepter sans porter de jugement

Archer et al., Cochrane 2012;10:CD006525.

- Effi… traitement de la d…

9

- Techniques de CBT pour combattre les ruminations et les comportements d'évitements pourraient ne pas être efficaces chez les patients MPOC
  - où ces comportements sont déclenchés par des symptômes réels et significatifs de la MPOC comme la DYSPNÉE

Panagioti et (…) Coventry. International Journal of COPD 2014:9 1289–1306

Et le pharmacologique?

Et le pharmacologique?

Effects of medical and psychological treatment of depression in patients with COPD — A review

Anja Fritzsche [a,*], Annika Clamor [a], Andreas von Leupoldt [a,b]

- Essais cliniques sur les anti-dépresseurs
  - avec les inhibiteurs sélectifs du recaptage de la sérotonine (**SSRI**; n = 6)
  - ou antidépresseurs tricycliques (**TCA**; n = 5)

J Clin Psychiatry 74:6, June 2013

Table 1 Antidepressant medical treatment drug therapy in COPD patients; TCA treatment trials.

TCA study	Study design	Intervention	Participants	Instruments	Outcome	ES[a] for depression
Gordon et al. (1985)	Randomized double-blind crossover trial	Desipramine for 8 wks and placebo for 8 wks, order was blinded. Initial dose 25 mg/d, increased weekly to maximum tolerated (not exceeding 100 mg).	*N* = 13 stable COPD [illegible] completed trial. Anxiety not assessed.	BDI and Zung self-rating depression scale	Depression scores improved significantly after treatment with placebo and with desipramine. No effect on physiological measures.	$d = 0.85$ for desipramine group, $d = 0.99$ for placebo group
Light et al. (1986)	Randomized double-blind crossover trial	Doxepin hydrochloride for 6 wks and placebo 6 wks, order was blinded. Doses received as tolerated. Maximum dose 105 mg/d.	*N* = 12 outpatients with [illegible] = 9 [illegible]y scores higher than average for hospitalized veterans.	BDI; 12MWD; Spielberger's state-trait anxiety inventory	No significant improvements in exercise capacity or depression and anxiety scores. Increase in 12MWD correlated with improvements in depression or anxiety.	$d = 0.46$ for placebo, $d = 0.37$ for doxepin hydrochloride group
Sharma et al. (1988)	Double-blind method	Imipramine–diazepam combination	[illegible]OPD [illegible]e disorders	N.A.	Helped depressed patients recover faster, but diazepam may trigger respiratory failure.	–
Borson et al. (1992)	Randomized double-blind placebo-controlled trial	Nortriptyline vs. placebo for 12 wks ¼ of 1 mg/kg of body weight increased weekly until 1 mg/kg of body weight.	[illegible]th COPD [illegible]bid [illegible]SM-III [illegible]: 17 placebo) completed trial. 83% with significant anxiety symptoms	CGI, Hamilton depression rating scale; PRAS; 12MWD; PFSI; SIP; Dyspnea questionnaire	Superior improvements for nortriptyline group in depression. Further improvements in anxiety, respiratory symptoms, physical comfort and day-to-day functioning. No change in physiological measures	$d_{korr} = -1.07$
Ström et al. (1995)	Randomized double-blind placebo-controlled trial	Protriptyline vs. placebo for 12 wks, 10 mg/d.	[illegible]bo) [illegible]at [illegible]d to moderate hypoxaemia. *N* = 5 completed trial	HADS, MACL; SIP; Dyspnea (self-developed scale)	No improvement in depression or anxiety scores, arterial blood gas tension, spirometry values, dyspnea or QoL scores. High rates of anticholinergic side	$d_{korr} = -0.33$

Table 2 Antidepressant medical treatment in COPD patients; SSRI treatment trials.

SSRI study	Study design	Intervention	Participants	Instruments	Outcome	ES[a] for depression
Papp et al. (1995)	Pilot study; descriptive	Sertraline for 6 wks, 12.5 mg/d. Increased to 100 mg during first 2 wks.	*N* = [illegible] consecutive COPD (severity not [illegible] with com[illegible]sion.	n.a.	Well tolerated, all reported general sense of well being. 5 showed improvements on daily living activity scale. No improvements in physiological parameters, subjective improvement in psychiatric conditions.	–
Smoller et al. (1998)	Case reports (6 retro-1 prospectively)	Sertraline (25–100 mg/d) added to regular medication. Varying durations.	*N* = [illegible]tive airw[illegible]a). Psyc[illegible]d.	Varied across patients	Improvements in dyspnea, regardless of comorbidities, but not in FEV_1. Some reported improvements in exercise tolerance, mood, and anxiety.	–
Evans et al. (1997)	Randomized double-blind placebo-controlled trial	Fluoxetine vs. placebo for 8 wks, 20 mg/d.	*N* = [illegible]ical inpa[illegible]ELDRS, GMS[illegible]ebo) completed trial. *N* = 38 with respiratory diseases.	HAMD, ELDRS, GMS	No significant difference between groups in response rate. Trend for fluoxetine group to respond better than controls after 8 wks (subjective report). Significantly more recovery from depression after ≥5 wks fluoxetine.	–
Yohannes et al. (2001)	Single-blinded, open study	Fluoxetine for 6 mths, 20 mg/d.	*N* = [illegible] II–III and [illegible]14 agre[illegible] completed. Anxiety not assessed.	GMS and MADRS; MRADL, BPQ	72% refusal rate. Of the 7 who completed trial, 4 responded to fluoxetine (criteria for major depression). 5 withdrew because of adverse side effects.	–
Lacasse et al. (2004)	Randomized double-blind placebo-controlled trial	Paroxetine vs. placebo for 12 wks, 2 patients 10 mg/d, other tolerated 20 mg/d.	*N* = [illegible]PD (ave[illegible]ficant depr[illegible] *N* = [illegible]mpleted trial. Anxiety not assessed.	GDS; SF-36, CRQ	GDS improved significantly after paroxetine but not after placebo. Adjusted between-group mean difference ns. Significant improvements in emotion and mastery domains and clinically important improvement (ns.) in dyspnea and fatigue scale after paroxetine. Respiratory stable.	–
Eiser et al. (2005)	Randomized double-blind placebo-controlled trial	Paroxetine vs. placebo for 6 wks, unblinded paroxetine for 3 mths. 20 mg/d.	*N* = [illegible]with COP[illegible]ssion (ICD[illegible]	HADS, BDI and MADRS. SGRQ; 6MWD	6 wks of blinded treatment led to ns. between-group differences. After unblinded 3 mths of treatment, depression scores, walking distances and QoL had	HADS-D: $d = 1.33$ BDI: $d = 1.27$ MADRS:

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Table 2 Antidepressant medical treatment in COPD patients; SSRI treatment trials.

SSRI study	Study design	Intervention	Participants	Instrume		
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Smoller et al. (1998)	Case reports (6 retro-1 prospectively)	Sertraline (25–100 mg/d) added to regular medication. Varying durations.	*N* = [illegible]tive airw[illegible]a). Psyc[illegible].	Varied across patients	Improvements in dyspnea, regardless of comorbidities, but not in FEV_1. Some reported improvements in exercise tolerance, mood, and anxiety.	–
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n = 13

n = 12

n = 10

n = 36

n = 26

n = 6

n = 7

n = 38

n = 57

n = 23

n = 28

- petits échantillons
- faible observance
- abandon ++ (du aux effets secondaires)

À retenir

- ✅ Prévalence élevée des troubles anxieux/dépressifs chez les patients asthmatiques et MPOC (1 sur 3)

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- ✅ Traitements non-pharmacologiques efficaces (réadaptation respiratoire – surtout quand elle inclut une intervention psychologique)

Remerciements

Réseau de recherche
en santé des population
du Québec

réseau qualaxia network

vivre en bonne santé mentale

Fonds de recherche
Santé
Québec

Fondation Auger

AstraZeneca

RSR
Réseau en Santé
Respiratoire du FRQS

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