



# **Nous esquemes de tractament broncodilatador en MPOC estable:**

## **De l'evidència a la pràctica clínica**

Dra. Gladys Bendahan

Farmacèutica Atenció Primària

[gbendahan.bcn.ics@gencat.cat](mailto:gbendahan.bcn.ics@gencat.cat)



# Quin creieu que és el motiu que no estiguin recomanats els nous?



PAUTES  
D'HARMONITZACIÓ  
FARMACOTERAPÈUTICA  
PHF-APC\*

N.02/2014

Generalitat de Catalunya  
Departament de Salut

CatSalut  
Servei Català  
de la Salut

**Pautes per a  
l'harmonització  
del tractament  
farmacològic  
de la malaltia  
pulmonar  
obstructiva  
crònica en  
l'atenció primària  
i comunitària**



PARA • REFLEXIONA • ACTÚA  
SEGURIDAD



# Algoritmo del tratamiento farmacológico EPOC estable GOLD 2017

|                | GRUPO A  | GRUPO B                | GRUPO C   | GRUPO D                |
|----------------|--|------------------------|---|------------------------|
| Exacerbaciones | 0-1 exacerbación/año<br>(sin ingreso hospitalario) |                        | ≥2 exacerbaciones/año<br>o<br>≥1 hospitalización por exacerbación |                        |
| Síntomas       | Bajo nivel de síntomas                             | Alto nivel de síntomas | Bajo nivel de síntomas  | Alto nivel de síntomas |



|                         | CESE HÁBITO TABÁQUICO, PROGRAMA DE EDUCACIÓN TERAPÉUTICA ESTRUCTURADO, ACTIVIDAD FÍSICA, VACUNACIÓN |             |                               |  |
|-------------------------|---|-------------|-------------------------------|--|
| Tratamiento de elección | SABA o SAMA<br>o<br>LABA o LAMA   | LABA o LAMA | LAMA<br>(preferible a LABA)   | LABA + LAMA<br>o<br>CI + LABA<br>(asma-EPOC) |
| Tratamiento alternativo |   | LABA + LAMA | LABA + LAMA<br>o<br>CI + LABA | CI + LABA + LAMA                             |

**Si persisteixen símptomes *malgrat un bon us!!!!***



## Checklist for HandiHaler use

- 1 Stand or sit upright when using your HandiHaler.
- 2 Open the dust cap by pressing the piercing button.
- 3 Open the mouthpiece by pulling it upwards.
- 4 Remove a capsule from the blister and put it in the chamber.
- 5 Close the mouthpiece until you hear it click.
- 6 Press and release the green piercing button.
- 7 Breathe out fully.
- 8 Place the mouthpiece between your teeth without biting and form a good seal around it with your lips.
- 9 Breathe in through your mouth so the capsule vibrates.
- 10 Breathe in slowly and deeply until your lungs are full.
- 11 Hold your breath and remove the HandiHaler from your mouth.
- 12 Continue to hold your breath for 10 seconds or as long as it is comfortable. Breathe out slowly.
- 13 Repeat steps 7 to 12 once again to empty the capsule.
- 14 Open the mouthpiece again and dispose of the used capsule.

## Common problems

Common mistakes that people make with HandiHalers include:

- Not standing or sitting upright, or holding the HandiHaler upright.
- Piercing the capsule several times or not at all.
- Not inhaling strongly enough to draw the medication out of the Handihaler and in to your lungs.
- Not taking a second inhalation to ensure you receive the full dose out of the capsule.
- Not holding your breath long enough after breathing in the contents.
- Not being able to tell when the HandiHaler is empty.

## Useful tips

- Use a new capsule for each dose.

- The capsule is to be used in the HandiHaler, **NOT swallowed.**



- HandiHaler device should be replaced every 12 months.
- Always close the Handihaler after use.
- Speak to your nurse or pharmacist if you experience problems opening or using your inhaler.
- Always read the patient leaflet provided with your Handihaler for any specific instructions.

# Turbohaler



## Checklist for turbohaler use

1 Stand or sit upright when using your turbohaler.

2 Unscrew and remove the cover.

3 Hold the turbohaler upright and turn the grip as far as it will go in one direction then as far as it will go in the other direction until you hear a click.

4 Breathe out fully.

5 Place the mouthpiece between your teeth without biting and form a good seal around it with your lips.

6 Breathe in through your mouth as fast and forcefully as you can, for as long as you can.

7 Remove the turbohaler from your mouth.

8 Breathe out gently.

9 If your doctor has told you to take two puffs, repeat **steps 3 to 8**.

10 Replace the cover straight away to keep out dust.

## Common problems

Common mistakes that are made with turbohalers include

- Not holding the turbohaler upright when loading the dose.
- Not twisting the grip in both directions to load the dose correctly.
- Not inhaling strongly enough to draw the medication out of the turbohaler and in to your lungs.
- Moisture from breathing out getting inside the turbohaler and leaving the cover off.

## Useful tips

- Place the turbohaler on a table to keep it upright when loading the dose.
- As a test, place a dark cloth over the mouthpiece and breath in, if you are inhaling strongly enough you should see powder on the cloth.
- Replace the cover after use.
- If your turbohaler contains a corticosteroid rinse your mouth out with water after your dose.
- Speak to your nurse or pharmacist if you experience problems using your turbohaler.
- Always read the patient leaflet provided with your turbohaler for any specific instructions.

## Checklist for inhaler use

- 1 Stand or sit upright when using your inhaler.
- 2 Remove the inhaler cap.
- 3 Hold the inhaler upright and shake 4 or 5 times.
- 4 Breathe out fully.
- 5 Place the mouthpiece between your teeth without biting and form a good seal around it with your lips.
- 6 Breathe in through your mouth and press the canister down at the same time to release a puff of medicine.
- 7 Continue to breathe in slowly and deeply for 3-5 seconds.
- 8 Hold your breath and take the inhaler from your mouth.
- 9 Continue to hold your breath for 10 seconds or as long as is comfortable. Breathe out slowly.
- 10 If your doctor has told you to take two puffs, wait 30 seconds then repeat **steps 3 to 9**.
- 11 Replace the cap straight away to keep out dust.

## Common problems

Common mistakes that people make with inhalers include:

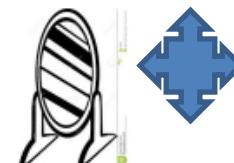
- Not standing, sitting or holding the inhaler upright.
- Not shaking the inhaler before using it.
- Inhaling too sharply, at the wrong time or not deeply enough.
- Not holding your breath long enough after breathing in the contents.
- Taking several puffs without waiting between them
- It can be difficult to tell when the inhaler is empty.



Cebado!!!

## Useful tips

- Practise in a mirror, if you see a 'mist' from the top of the inhaler or the sides of your mouth you should start again.



- If your inhaler contains a corticosteroid rinse your mouth out with water after your dose.
- A spacer device used with your inhaler could help with any co-ordination problem, help the medication reach the lungs and reduce any side effects.
- Always read the patient leaflet provided with your inhaler for any specific instructions.
- Speak to your nurse or pharmacist if you experience problems using your inhaler.



# TÈCNICA INHALATÒRIA



EXPIRAR



INSPIRAR



AGUANTAR

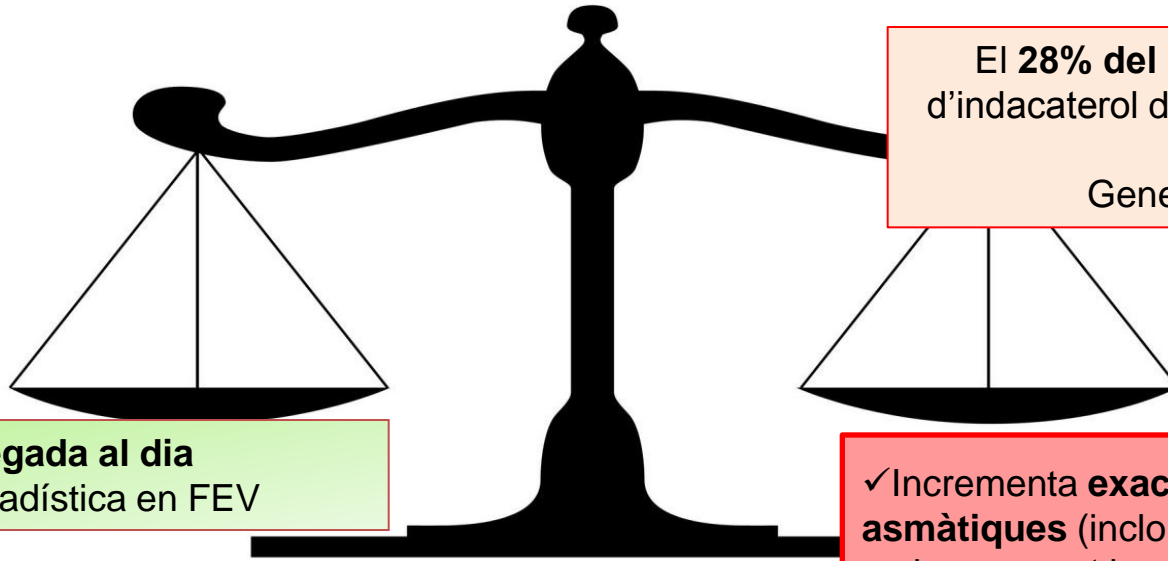


EXPIRAR



GLOPEJAR

# Indacaterol\_El balanç no sembla favorable



- ✓ Pauta 1 vegada al dia
- ✓ Millora estadística en FEV

Sense dades favorables en símptomes, exacerbacions u hospitalitzacions

El 28% del consum d'envasos d'indacaterol del SAP Esquerra és de **300mg!!**  
Gener – juliol 2017

- ✓ Incrementa **exacerbacions asmàtiques** (inclou alguna mort. )FDA no ha aprovat les dosis d'Espanya monoteràpia:150-300mcg Només 75 mcg
- ✓ Increment **de tos post inhalació** (20% dels pacients) Als 15 sc i dura 5sec
- ✓ Més **hiperglicèmia** que formoterol
- ✓ Més **infeccions respiratòries** que formoterol
- ✓ **Major cost anual** que formoterol. 476€ vs 300€



# Caldria precaució amb el nous LAMA en pacients amb malatia cardiovascular

Es van excloure dels assajos clínics pacients amb patologia cardiovascular.

Els assajos clínics es va observar:

- Aclidini\_ **Alteració de la conducció auriculoventricular**
- Glicopirroni- **Increment del risc de Fibrilació auricular**
- Umeclidini\_ **Increment d'alteracions CV. Possible risc de pneumònies**



Es desconeix la seguretat: a llarg termini i en pacients amb malaltia CV

targetagroga.cat

Fundació Institut Català  
de Farmacologia



<https://www.targetagroga.cat/>

## Els efectes adversos cardiovasculars podrien sumar-se:



### LABA

- En alguns pacients poden aparèixer **palpitacions i taquicàrdia**. (*Tendeixen a disminuir*)
- Mal de cap, tremolors (especialment en gent gran i a dosis elevades).
- Altres: **allargamentQT**, hipertensió arterial, vasodilatació perifèrica, hiperglucèmia, **hipocalèmia**, tos, broncoespasmes, irritació orofaríngia i dispèpsia.

### LAMA

- Sequedat de boca i gust metàl·lic.
- **Alteracions cardiovasculars (taquiarítmies)**.
- Altres: retenció urinària, increment pressió ocular i irritació faríngia.

# Evidencias científicas de las asociaciones a dosis fijas LABA+LAMA

|                             | Glicopirroni<br>/indacaterol  | Umeclidini/<br>vilanterol   | Aclidini/<br>formoterol  | Tiotropi/<br>olodaterol   |
|-----------------------------|---|---|--|---|
| FEV <sub>1</sub> valle      | PBO 200ml<br>GLICOP: 90 ml<br>INDAC: 70 ml<br>TIOTR: 80 ml<br>SALM/FLUT: 140 ml<br>(FEV <sub>1</sub> AUC <sub>0-12h</sub> ) | PBO: 167 ml<br>UMEC: 37-52 ml<br>VILAN: 90-95 ml<br>TIOTR: 60-112 m | PBO: 130-143 mL<br>FORM: 68 ml<br>ACL: 118 ml<br>(FEV <sub>1</sub> 1h) | PBO: 162-166 mL<br>TIOT: 50-71 ml<br>OLOD: 82-88 ml<br>SALM/FLUT: 58 ml |
| Disnea (ITD)                | PBO 1,1<br>GLIC, IND: NRC<br>TIOT: NRC<br>SALM/FLUT: NRC  | PBO 1,2<br>UMEC, VIL: NS<br>TIOT: NS                                | PBO 1,5<br>ACL, FORM: NS   | TIOT, OLOD: NS  |
| Calidad vida<br>(SQGR)      | PBO NRC<br>GLIC, IND, TIOT: NRC<br>TIOT/FORMOT: NRC   | PBO NS<br>TIOTR: RD   | PBO RD<br>ACL, FORM: NS  | PBO -4,67<br>TIOT, OLOD: NRC  |
| Reducción<br>exacerbaciones | GLICOP: NRC<br>TIOTR: NS<br>TIOTR/FORMO: NS   | -   | PBO RD   | -   |

NS: No significativo; NRC: diferencias no relevantes clínicamente;  
RD: Resultados discordantes

Informes evaluación nuevos medicamentos. [Cataluña](#)

Abstract ▾

Send to: ▾

[Drug Saf.](#) 2016 Feb 29. [Epub ahead of print]

## Safety Considerations with Dual Bronchodilator Therapy in COPD: An Update.

[Matera MG](#)<sup>1</sup>, [Rogliani P](#)<sup>2</sup>, [Calzetta L](#)<sup>2</sup>, [Cazzola M](#)<sup>3</sup>.

### ⊕ Author information

#### Abstract

Combining... benefit on  
airw... the  
trea...  
com... fixed-dose  
and... tiotropium/olodaterol, and acclidinium/formoterol-  
these... under clinical development. Many pivotal trials have shown that all of  
events (AEs) that are characteristic of LAMAs and LABAs when used as monotherapy. Unfortunately, these clinical trials  
have included a very small and highly selected fraction of the COPD patient population. Therefore, it is questionable  
whether such data can be extrapolated to a larger, 'real-life' population of patients with COPD, especially given that COPD  
patients with co-morbidities are often excluded from clinical trials, COPD is a major risk factor for most cardiovascular  
diseases, and both LAMAs and LABAs have a high potential to impact cardiac activities. All clinical trials have been  
conducted under widely varying conditions and, consequently, AE rates of a drug observed in a clinical trial cannot be  
directly compared with rates in the clinical trials of another drug and may not reflect the rates observed in practice. Head-  
to-head studies comparing the different LAMA/LABA FDCs that will include the true patients that we meet in our everyday  
practice are absolutely essential if we wish to make a therapeutic choice that is not purely empirical.

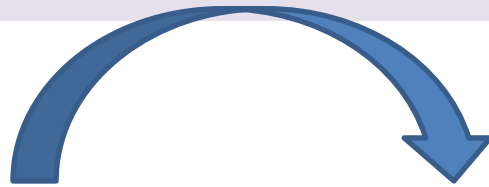
PMID: 26924197 [PubMed - as supplied by publisher]

- L'aparició de dispositius duals LABA+LAMA podria sobredimensionar la seva prescripció?
- Es té en compte malaltia cardiovascular concomitant?
- S'havia reforçat educació inhaladors ?Millor control?
- Hi ha hagut algun esdeveniment CV posterior ?



CI+LABA

LABA+LAMA



# Què estem fent?

- Extracció informàtica de l'HC\_ 21/7/2017
  - Inclou Pacients del SAP Esquerra del ICS (13 centres) amb diagnòstic de MPOC
- Variables
  - Edat, sexe, tractament farmacològic MPOC, tabac
  - Comorbiditats vasculars: CI, ACxFA, AVC i DM2

# Limitacions

- Infraregistre
- No podem accedir a informació de disnea, qualitat de vida, exacerbacions

7.069 pacients amb diagnòstic MPOC



4.689 amb tractaments  
farmacològic



**El 67% son Homes**

**L'edat mitja és de 73,9 anys**

**Les dones son més joves**



**1 de cada 3 continua fumant**

**1 de cada 7 \_ACxFA**

**1 de cada 8 \_CI**

**1 de cada 20 \_AVC**

# Com són els nostres pacients?

J.B. Soriano et al / Arch Bronconeumol. 2010;46(10):522-530

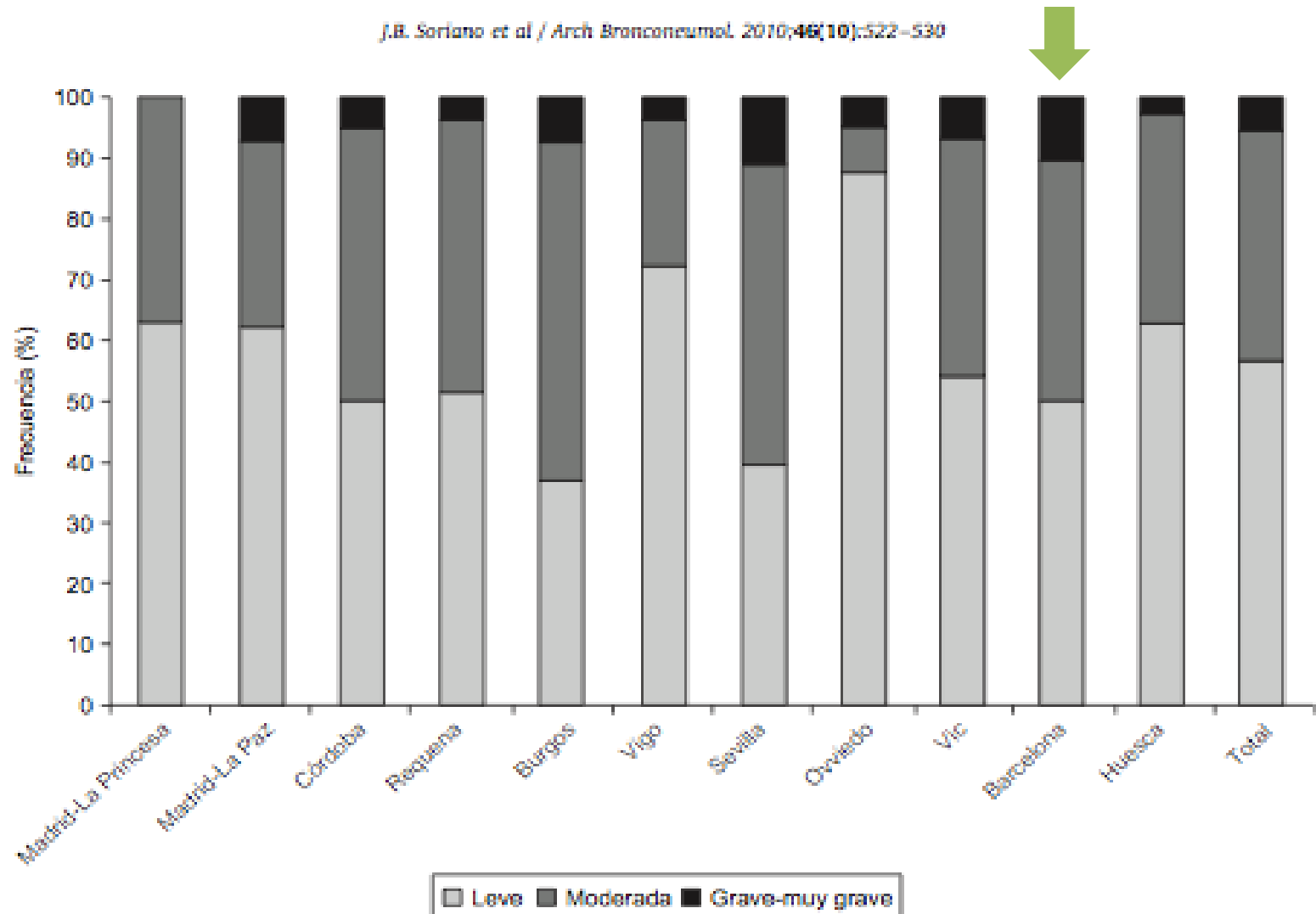


Figura 1. Distribución de la gravedad de EPOC, por áreas.

# Com són els nostres pacients?

| GESEPOC 2014     |       |
|------------------|-------|
| Lleu             | 70,4% |
| Moderat          | 20,8% |
| Greu o molt greu | 8,8%  |

Prevalencia estimada en Catalunya de pacients con EPOC. Flor X., Álvarez S.  
[http://gestor.camfic.cat/uploads/ITEM\\_5429\\_FORM\\_6431.pdf](http://gestor.camfic.cat/uploads/ITEM_5429_FORM_6431.pdf)

# Algoritmo del tratamiento farmacológico EPOC estable GOLD 2017

|                | GRUPO A  | GRUPO B                | GRUPO C   | GRUPO D                |
|----------------|--|------------------------|---|------------------------|
| Exacerbaciones | 0-1 exacerbación/año<br>(sin ingreso hospitalario) |                        | ≥2 exacerbaciones/año<br>o<br>≥1 hospitalización por exacerbación |                        |
| Síntomas       | Bajo nivel de síntomas                             | Alto nivel de síntomas | Bajo nivel de síntomas  | Alto nivel de síntomas |

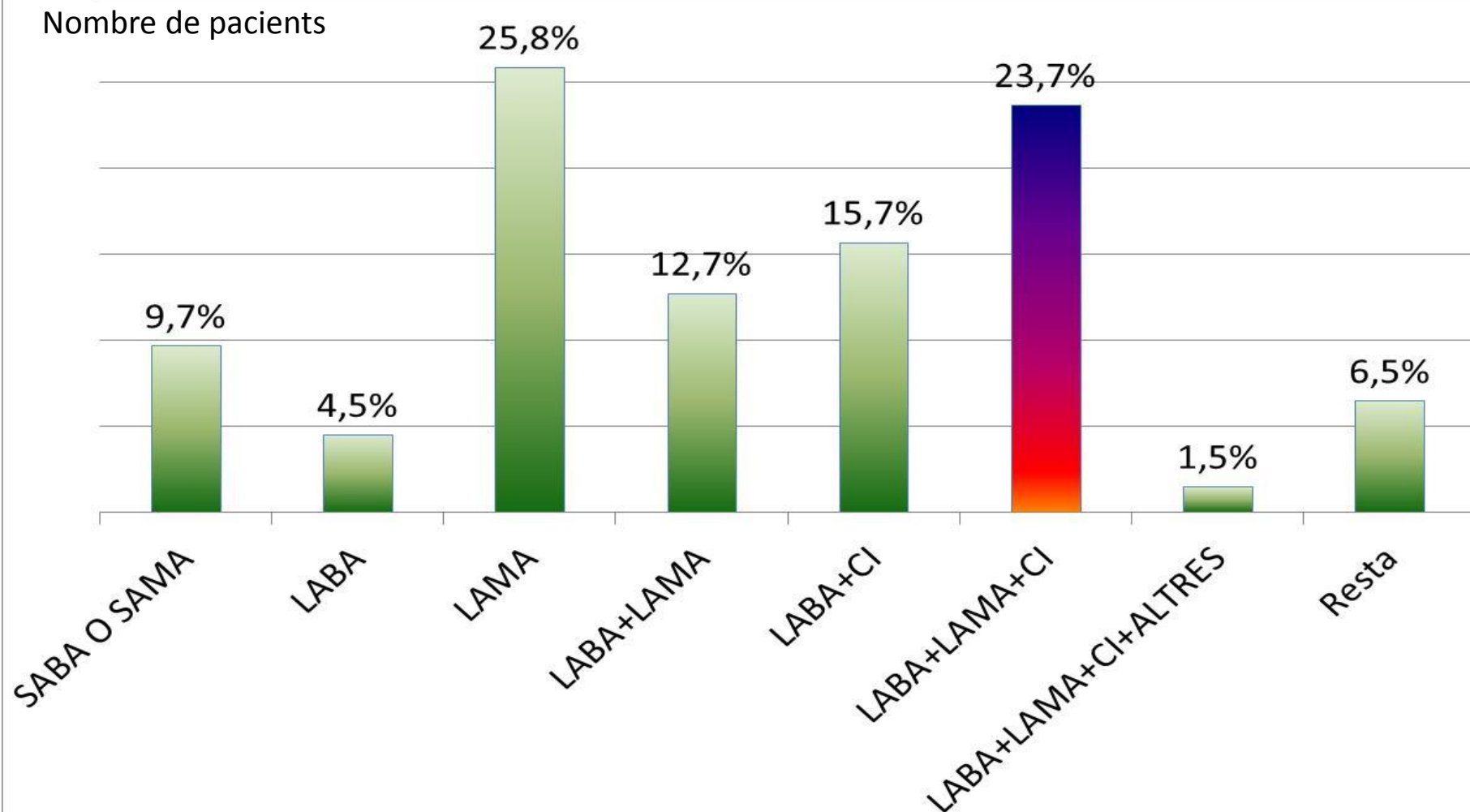


|                         | CESE HÁBITO TABÁQUICO, PROGRAMA DE EDUCACIÓN TERAPÉUTICA ESTRUCTURADO, ACTIVIDAD FÍSICA, VACUNACIÓN |             |                               |  |
|-------------------------|---|-------------|-------------------------------|--|
| Tratamiento de elección | SABA o SAMA<br>o<br>LABA o LAMA   | LABA o LAMA | LAMA<br>(preferible a LABA)   | LABA + LAMA<br>o<br>CI + LABA<br>(asma-EPOC) |
| Tratamiento alternativo |   | LABA + LAMA | LABA + LAMA<br>o<br>CI + LABA | CI + LABA + LAMA                             |

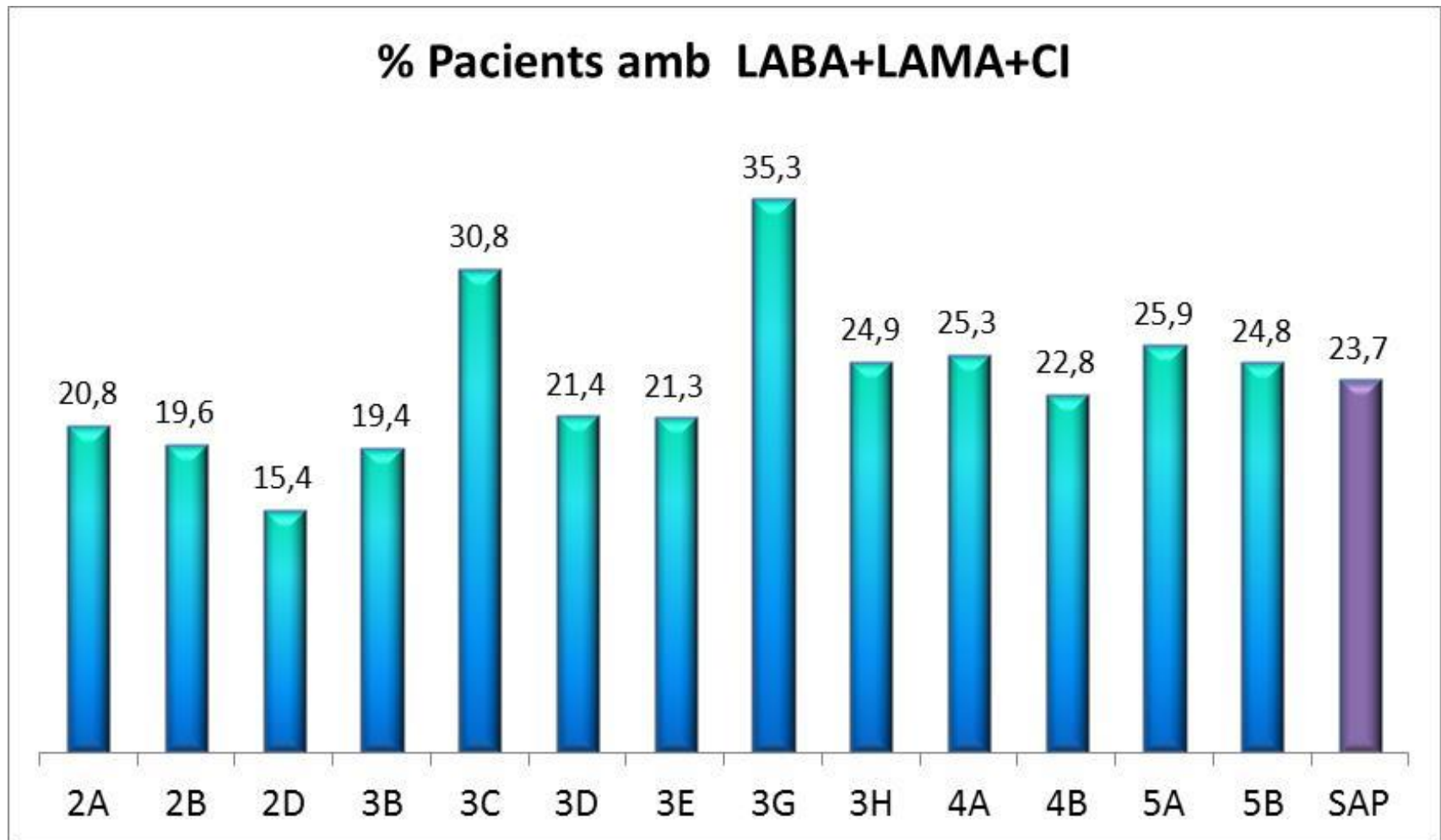
**Si persisteixen símptomes malgrat un bon us!!!!**

# La triple teràpia sembla sobredimensionada

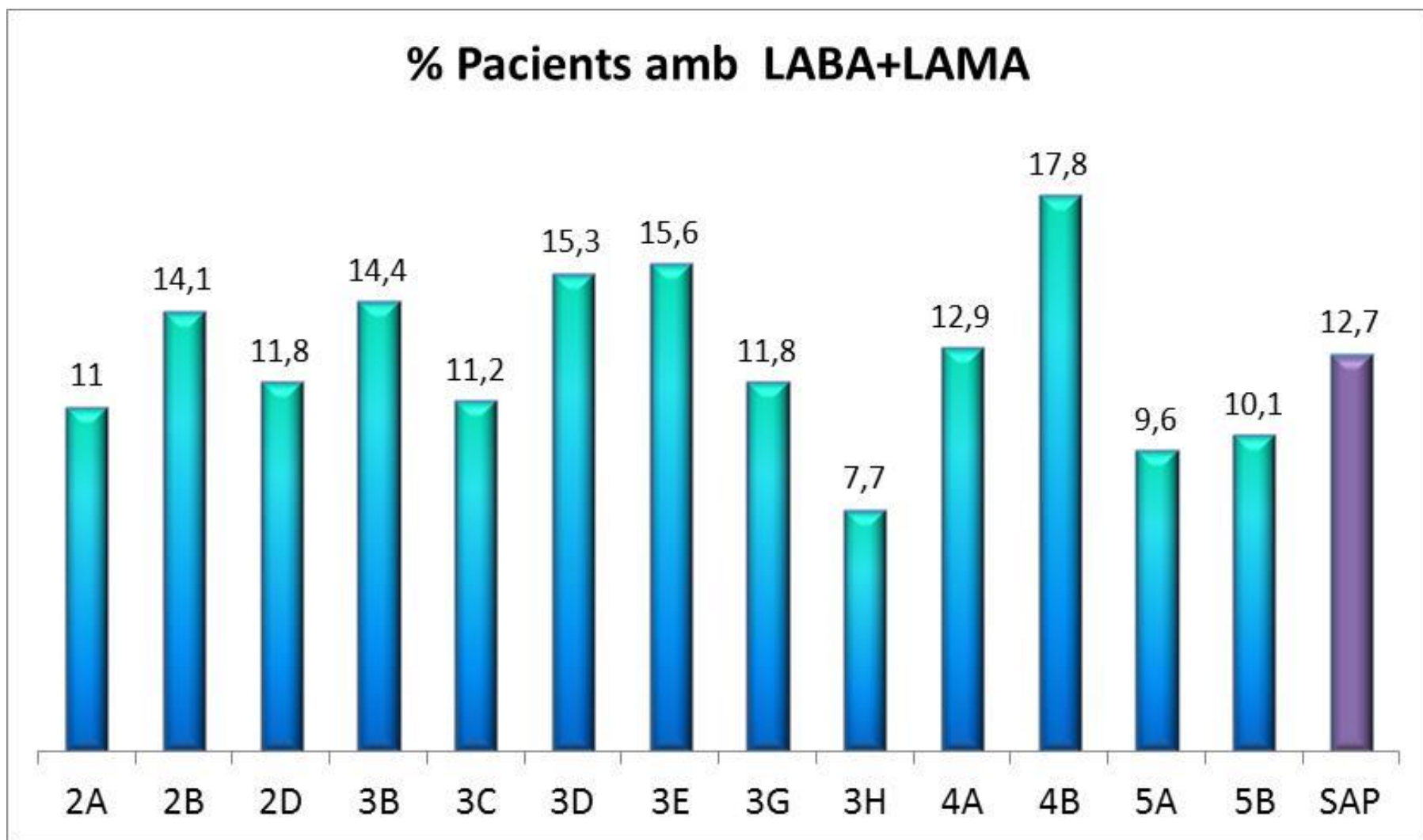
Nombre de pacients



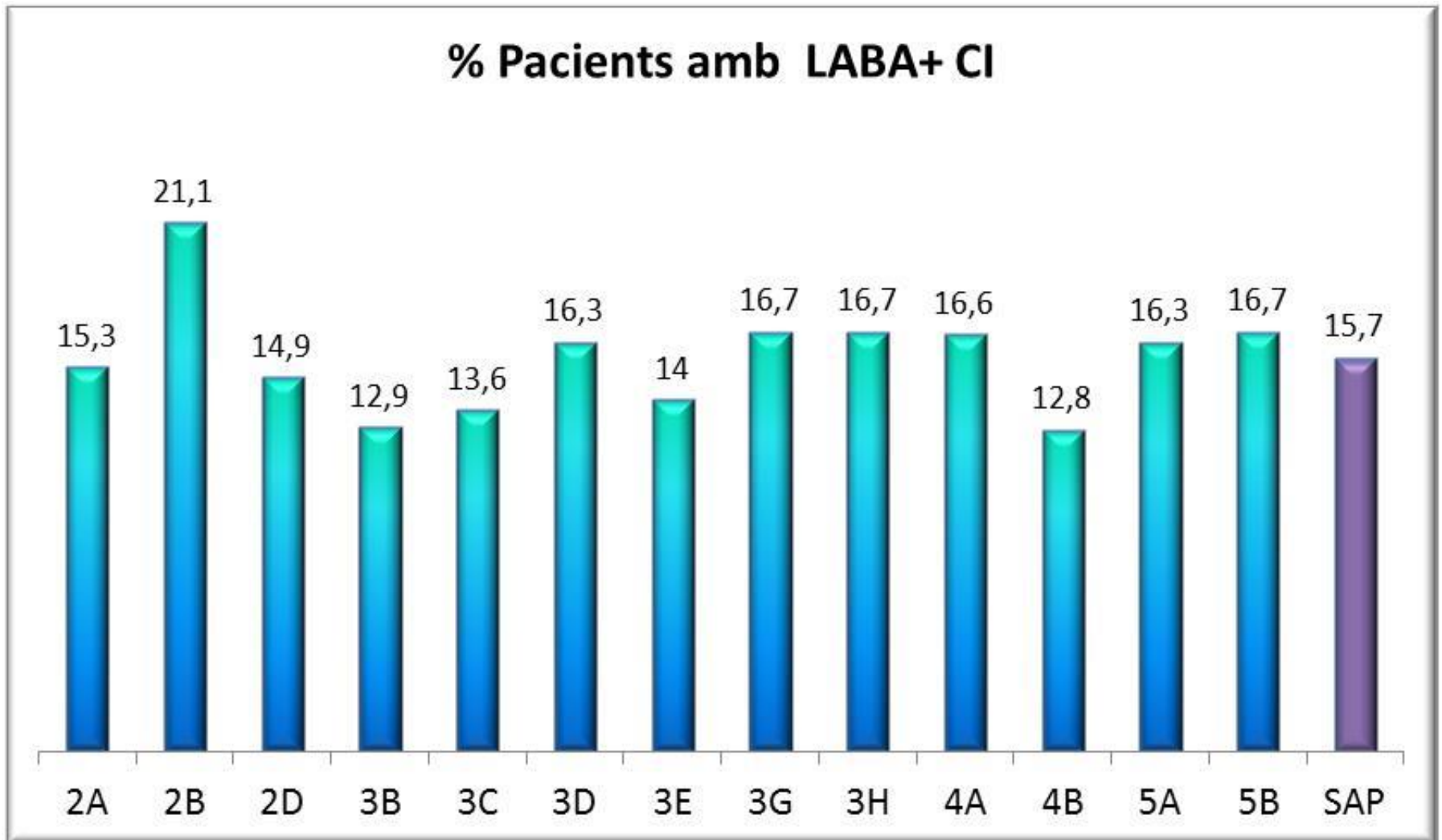
Rang amplíssim de triple teràpia entre centres (15,4% a 35,3%).



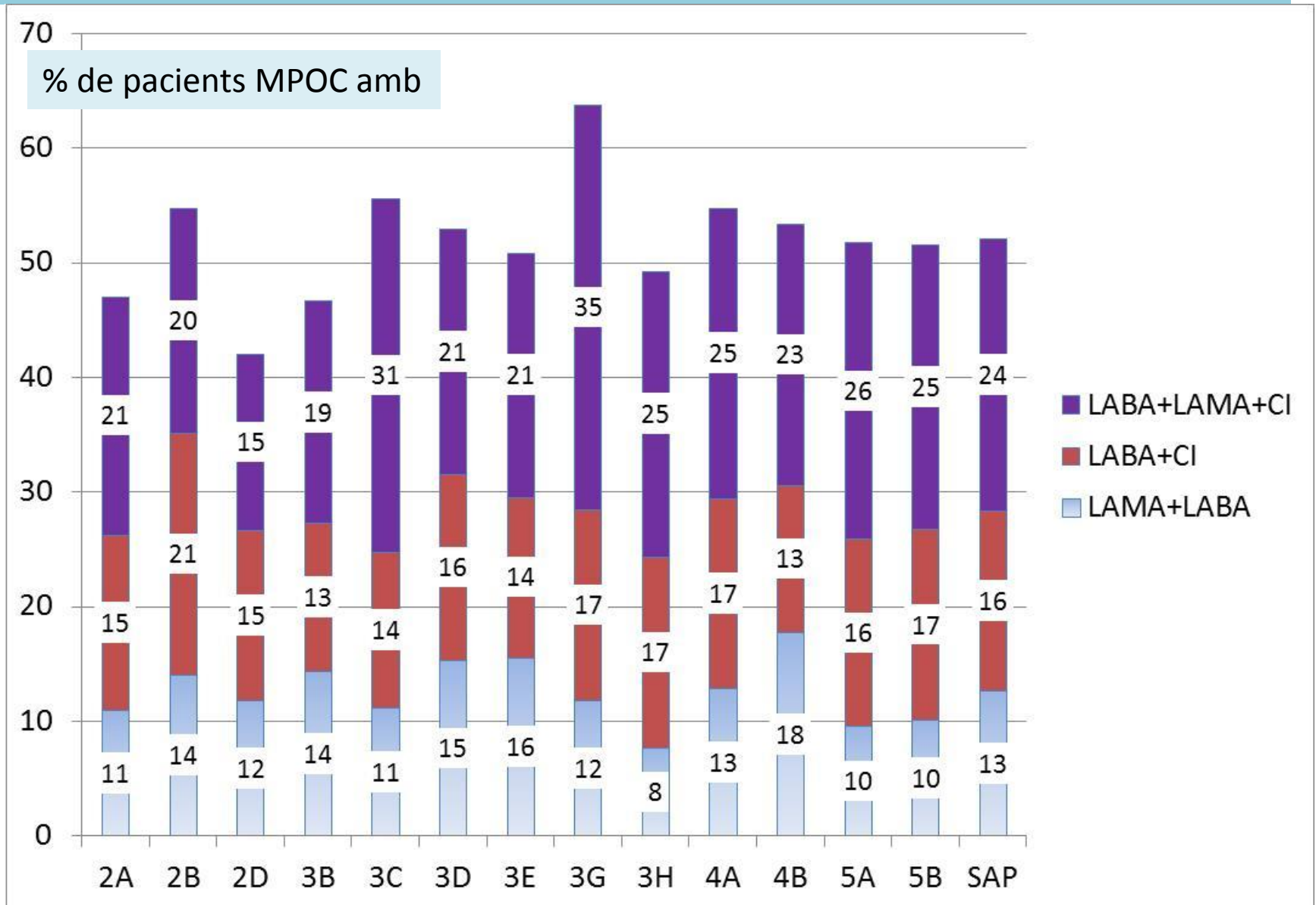
# La proporció de pacients amb teràpia dual arriba a duplicar-se entre centres



La variabilitat de LABA+CI entre centres és menor



# Sobredimensionat????



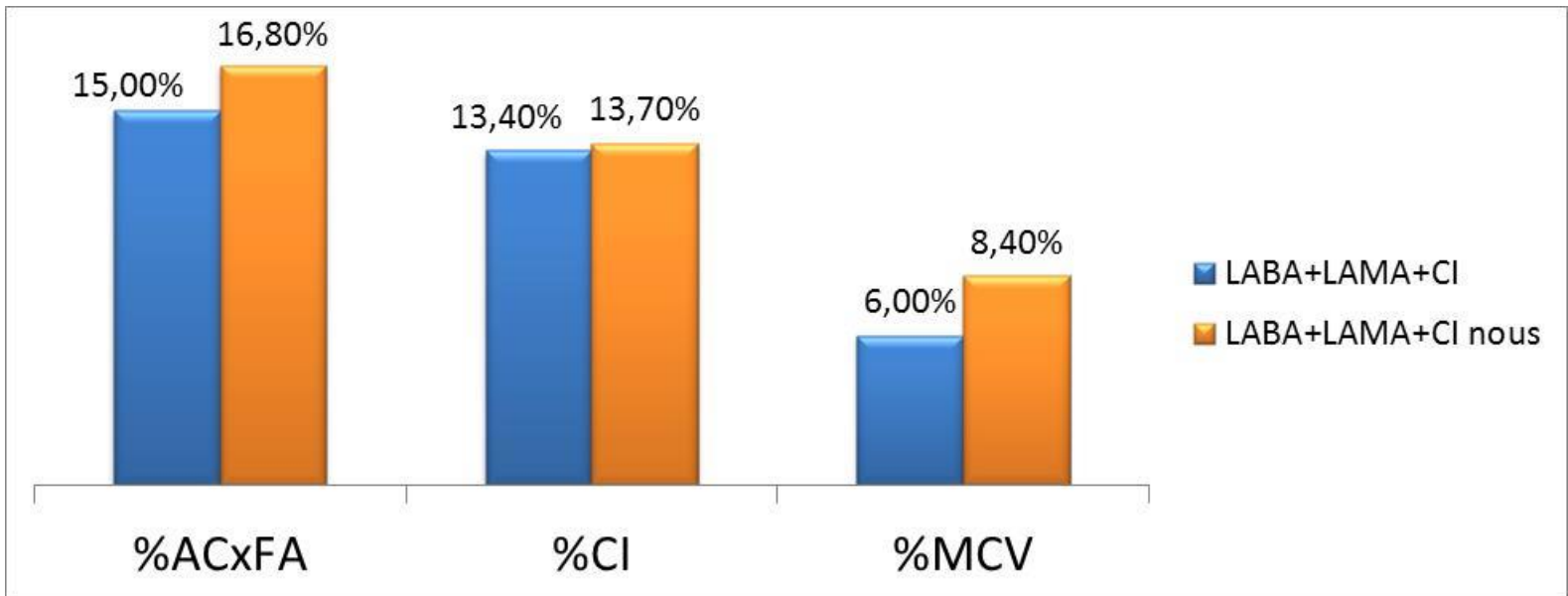
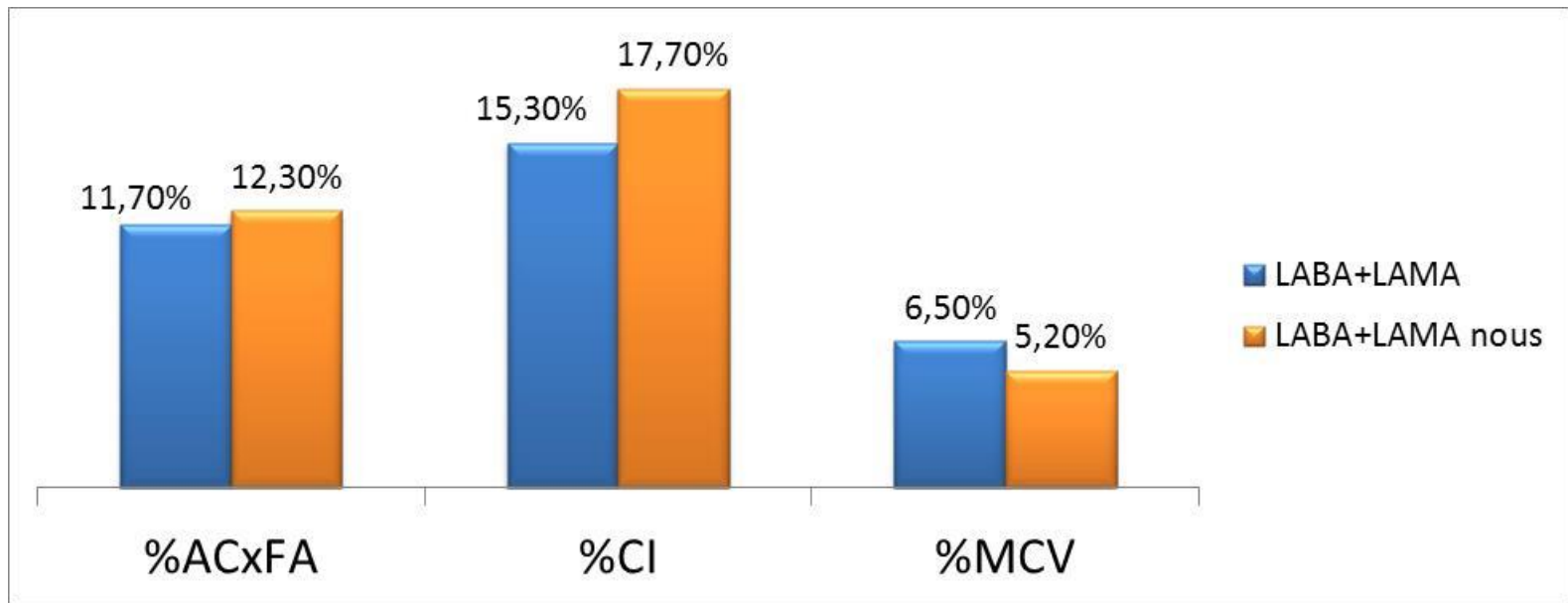


65% dels pacients sense rescat

Hi ha actitud de prudència amb els nous  
fàrmacs i pacients amb comorbiditat  
cardiovascular

A photograph showing a person's feet on a balance beam. The person is standing on the beam with their feet apart, maintaining balance. The background is a blurred indoor setting, possibly a gym or a dance studio. A white rectangular sign with the word "No!" in red, bold, sans-serif font is overlaid on the lower part of the image, tilted slightly to the right.

**No!**



Pre o post? Pendent d'explotació



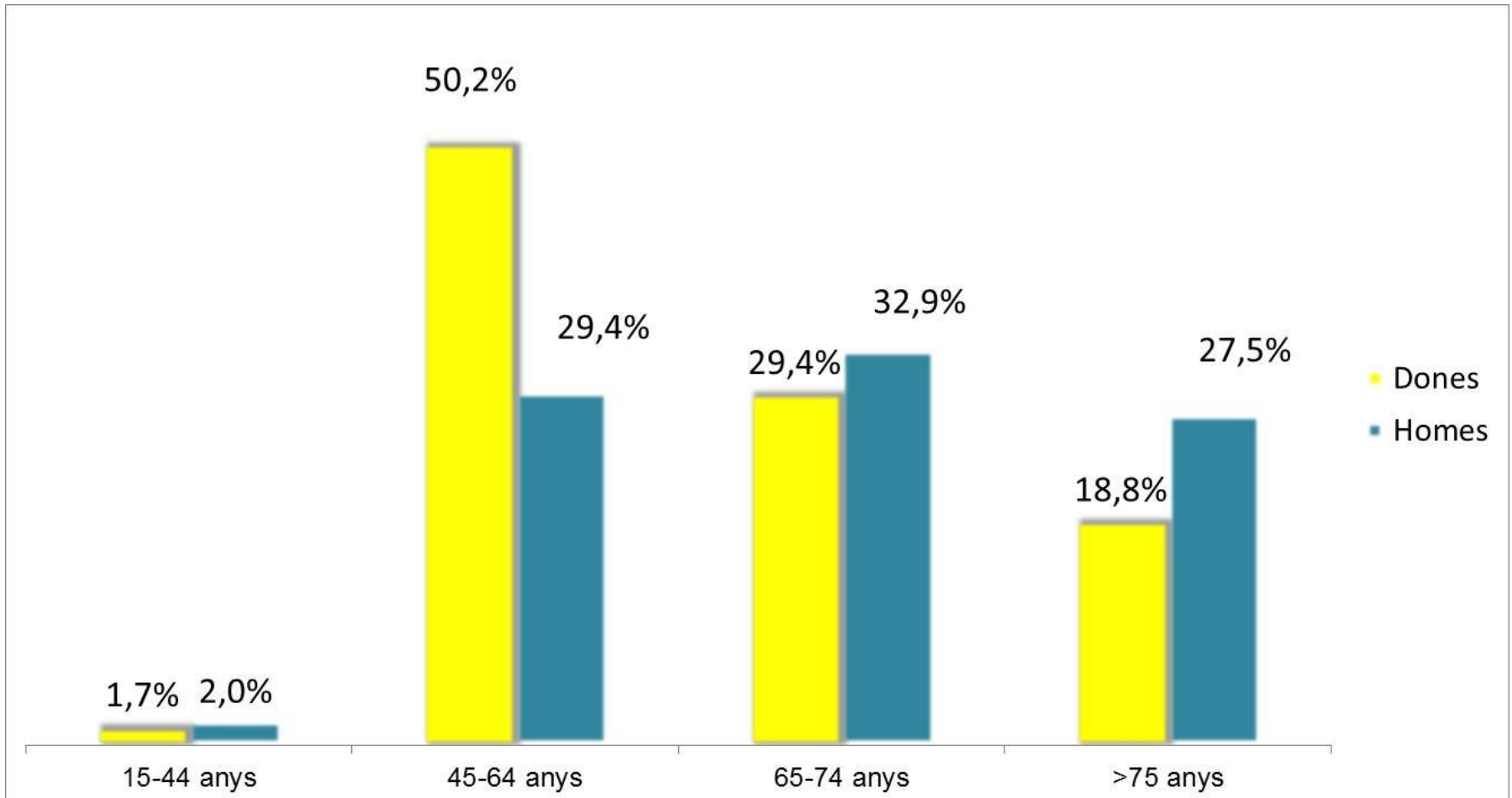
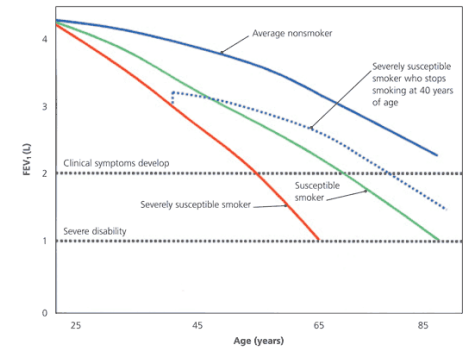


Monday

1

Time to quit

El 50% de dones està en grup etari de clar benefici en deixar de fumar



I si fem sinèrgies?

Primaria

Associacions de pacients

Hospital

Farmàcies





[desmotivaciones.es](http://desmotivaciones.es)

## Los Arboles...

...No te dejan ver el Bosque. (No mires el problema, mira la solución)