



SIP

Societal Impact of Pain

2017

Structured Cooperation
between Health Care
Systems tackling the
societal impact of pain!

**Prevalence & social burden
of active chronic low back
pain
in the adult Portuguese
population:
results from a national survey**

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Prevalence & social burden of active chronic low back pain in the adult Portuguese population

1st Step

Prevalence of LBP

Development and management of a large epidemiological population study

Prevalence of RMD, including self-reported LBP, among adult Portuguese population

2nd Step

Burden of CLBP

- . To determine the prevalence and social burden of CLBP in the adult Portuguese population
- . To characterize the **intake of analgesic** and other pain relief drugs
- . To identify the **additional burden of anxiety and depressive symptoms** in subjects with CLBP



1st Step

Prevalence of Low Back Pain in adult Portuguese Population



Gouveia N, Rodrigues A, Ramiro S, et al.
**EpiReumaPt: how to perform a national
population based study – a practical guide.**
2015. Acta Reumat. Port. 40:128-136.

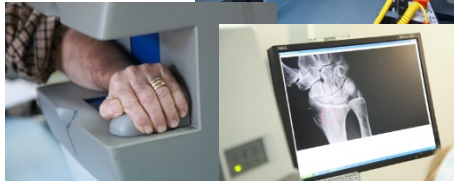
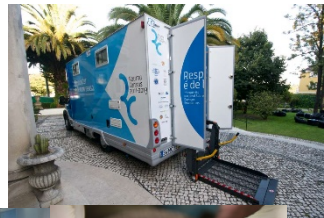
Branco JC, Rodrigues A, Gouveia N, et al. **Prevalence of rheumatic
and musculoskeletal diseases and their impact on health related
quality of life, physical function and mental health in Portugal:
results from EpiReumaPt, a national health survey.**
RMD Open. *In press.* 2015.

Prevalence of LBP in adult Portuguese Population

1st Step

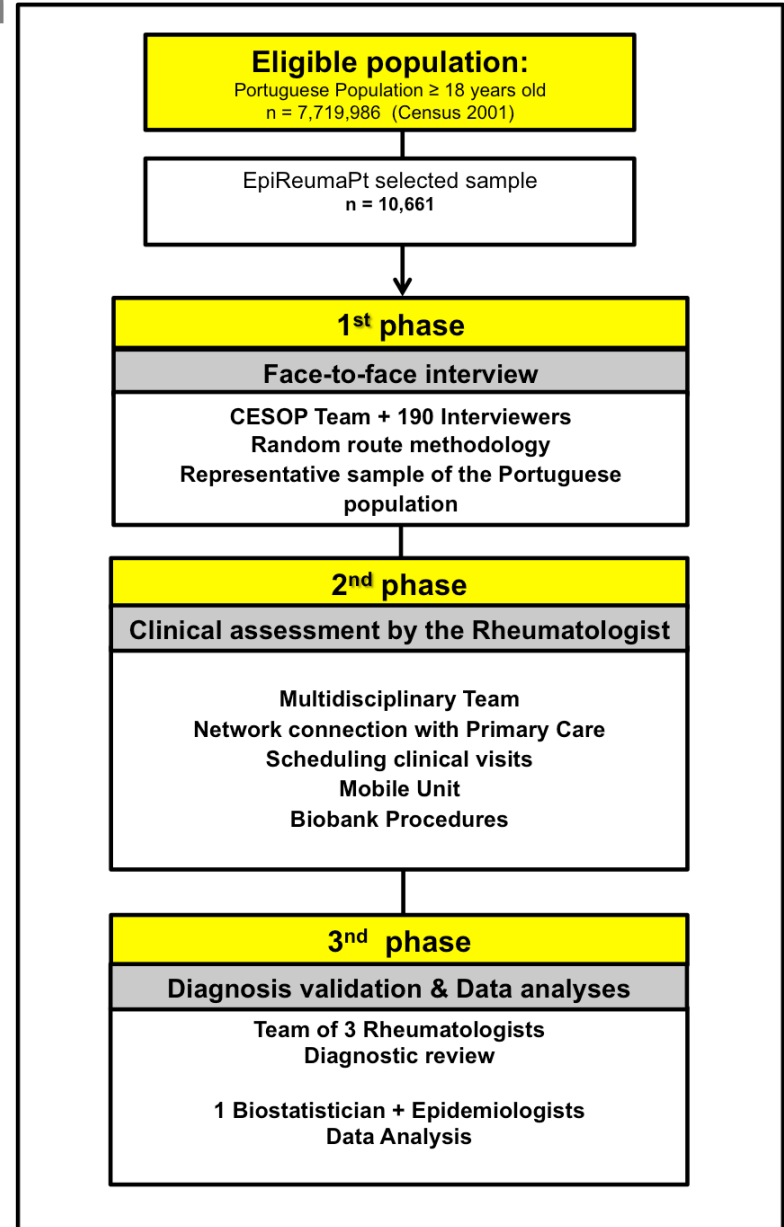


Recruitment
Set 2011 – Dec 2013



BIOBANCO - IMM
CENTRO ACADÉMICO DE MEDICINA DE LISBOA

EpiReumaPt



Prevalence of LBP in adult Portuguese **1st Step**ation



EpiReumaPt survey

1st phase: face-to-face interview

366 locations

119 interviewers

10,661
Participants

Data:

- . Sociodemographic
 - . Life style
- . Anxiety and depression
- . Comorbidities
- . Health status
- . Socioeconomic
 - . Function
- . Questionnaires of function/disease activity according to disease Therapy

2nd phase: clinical appointments

95 Rheumatologists

255 Primary care centers

250 appointment days

3,877
clinical appointments

Imaging and blood tests:

3342 PIXI
2228 BMA calcaneus
2422 BMA wrist
438 RX hand
1265 RX vertebral column
691 RX toracic vertebrae
207 RX cervical column
122 RX hip
479 RX knee
942 blood tests
3608 DNA samples

CLBP in adult Portuguese Population

EpiReuma Pt Case definitions

Rheumatoid Arthritis
ACR & EULAR criteria

Axial and peripheral SpA
ASAS criteria

Polymyalgia Rheumatica
Bird et al criteria

Osteoporosis
previous fragility fracture,
previous OP diagnosis,
current OP treatment or
fulfillment of the WHO criteria
when lumbar and/or femoral
neck dual energy X-ray
absorptiometry (DEXA) was
available

**Periarticular
Disease**
expert opinion
after reviewing
clinical history,
physical exam,
ultrasound and
electromyography

**Knee OA
Hip OA
Hand OA
Fibromyalgia
SLE
Gout**
ACR criteria

Low Back Pain
Self-report

Pain screening
. In the day of interview
. In the previous 12
months
. VAS & pain
interference

**Inflammatory LBP
screening**
Red Flags

**Healthcare resources
consumption**
. Clinical visits
. Complementary
exams

Prevalence of LBP in adult Portuguese First Step



Measurements, assessment and instruments

Socio-demographic data

Age
Gender
Ethnicity
Education level
Marital status

Socio-economic profile

Household income
Current professional status
Number of work hours /week

Health consumption data

Outpatient clinic appointment
Specialty care
Hospitalizations
Home care assistance
Healthcare service needs
Outpatient clinic visits

Life styles habits

Smoking
Alcohol intake
Coffee intake
Physical exercise practice
employment due work disability

Therapeutic

Pharmacological
Non-pharmacologic
Surgery
Complementary treatments

Work disability data

Absenteeism
Presenteeism
Early retirement

Anthropometric data

Weight
Height
BMI

Physical function

HAQ

Quality of life

EQ-5D-3L

Anxiety & Depressive symptoms

HADS

Self-reported chronic diseases

Dyslipidemia
Hypertension
Allergy
Gastrointestinal disease
Mental disease
Cardiac disease
Diabetes
Thyroid and parathyroid disease
Renal colic
Pulmonary disease
Hyperuricemia
Cancer
Neurologic disease
Hypogonadism

Prevalence of LBP in adult Portuguese First Step



	Total Prevalence	Women Prevalence	Men Prevalence
Low Back Pain	26.4%	29.6%	22.8%
Periarticular Disease	15.8%	19.1%	12.0%
Knee	12.4%	15.8%	8.6%
Osteoarthritis	10.2%	17.0%	2.6%
Hand Osteoarthritis	8.7%	13.8%	3.2%
Hip Osteoarthritis	2.9%	3.0%	2.9%
Fibromyalgia	1.7%	3.1%	0.1%
Spondyloarthritis	1.6%	2.0%	1.2%
Gout	1.3%	0.08%	2.6%
Rheumatoid Arthritis	0.7%	1.1%	0.3%
Systemic lupus erythematosus	0.1%	0.2%	0.04%
Polymyalgia Rheumatica	0.1%	0.1%	0.06%

> 2.6 Million of Portuguese

RMDs
Prevalence
in adult
Portuguese

For the main sample, the initial extrapolation weights were calculated as the inverse of the inclusion probabilities, taking into account the sampling design, i.e, a stratified two-stage cluster sampling design. The weight was developed by Nova School of Statistics and Information Management (IMS/UNL)

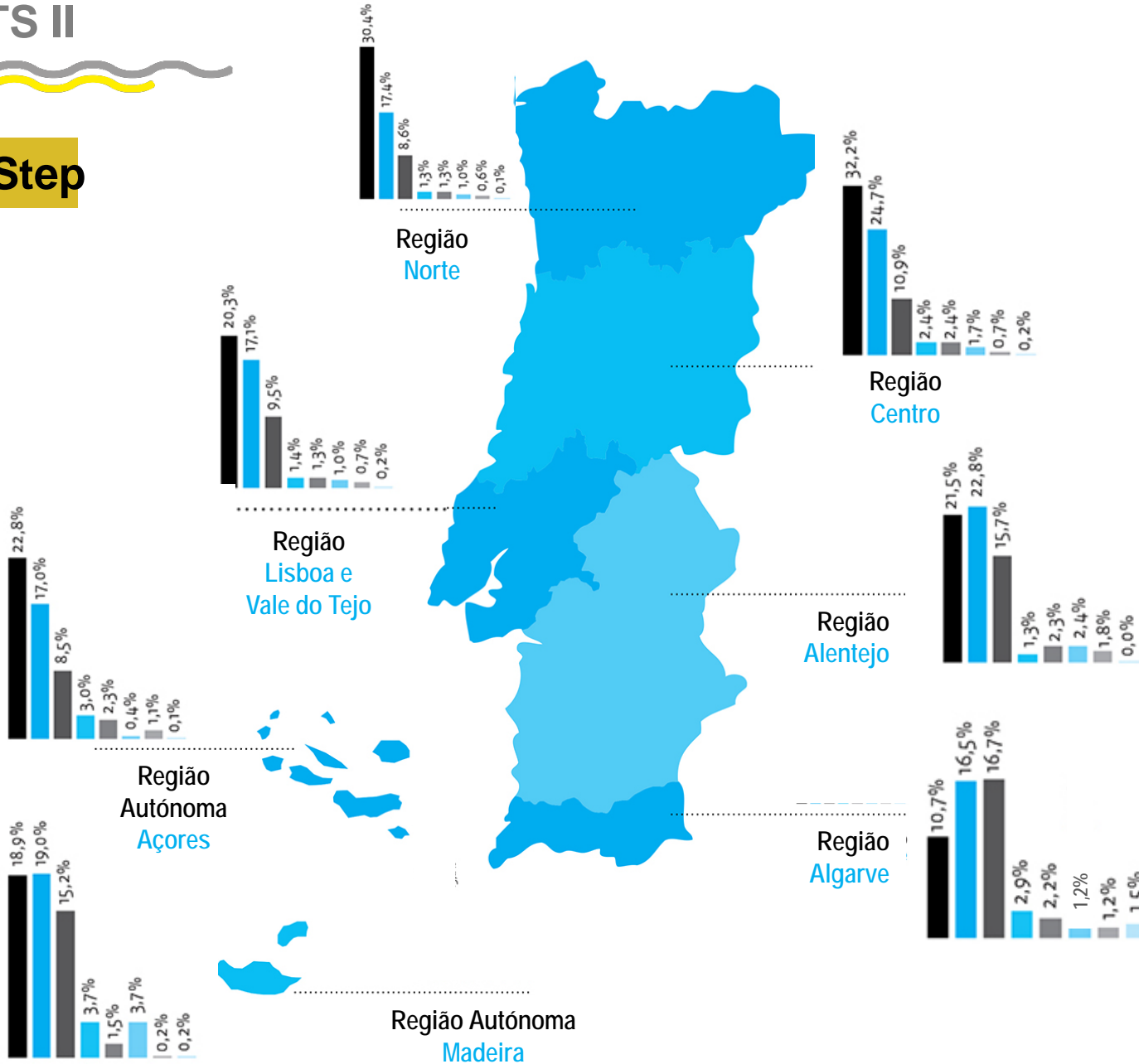


RMDs & LBP Prevalence

NUTS II

1st Step

- LBP
- Osteoarthritis
- Osteoporosis
- Fibromyalgia
- Spondyloarthritis
- Gout
- Rheumatoid Arthritis
- SLE



2nd Step

The burden of CLBP in adult Portuguese population



Research Work

Prevalence & social burden of active chronic low back pain in the adult Portuguese population:

Part IV

results from a national survey. *International Rheumatology*. In press

The use of analgesic and other pain relief drugs to manage chronic low back pain:

Part V

Anxiety and depressive symptoms: an additional burden to chronic low back pain? – results from a national survey

Part VI

results from a national population-survey

The burden (2nd Step)

Case Definition

LBP was defined as pain in the back area, from the lower margin of the twelfth ribs to the lower gluteal folds, with or without referred pain to the lower limbs.

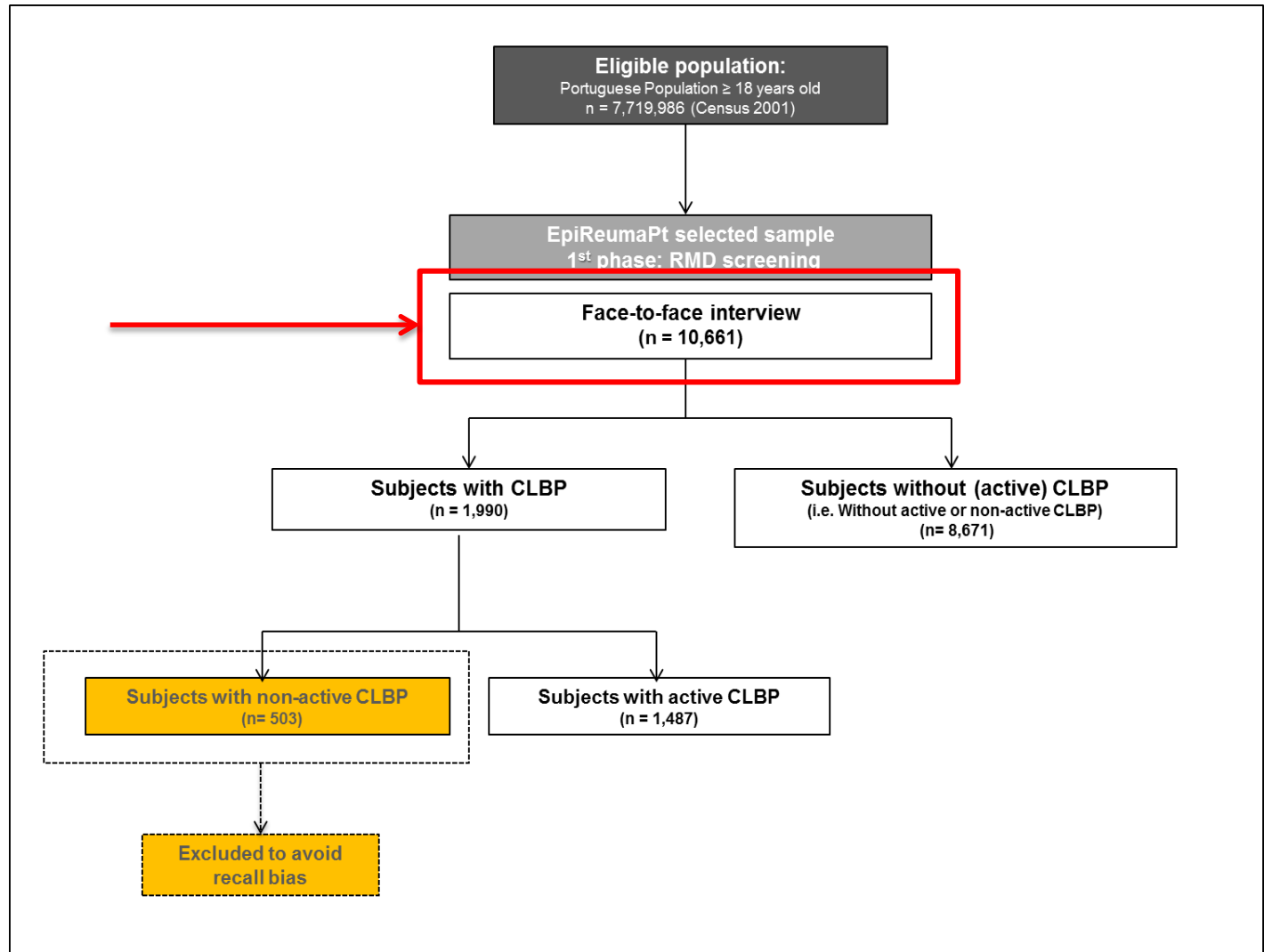
Active CLBP was defined as self-reported LBP, present on the day of the interview, and that was in most of at least 90 days (recently from study design cause).

Part IV

Prevalence & social burden of active chronic low back pain in the adult Portuguese population: results from a national survey

Part V

The use of analgesic and other pain relief drugs to manage chronic low back pain: results from a national survey



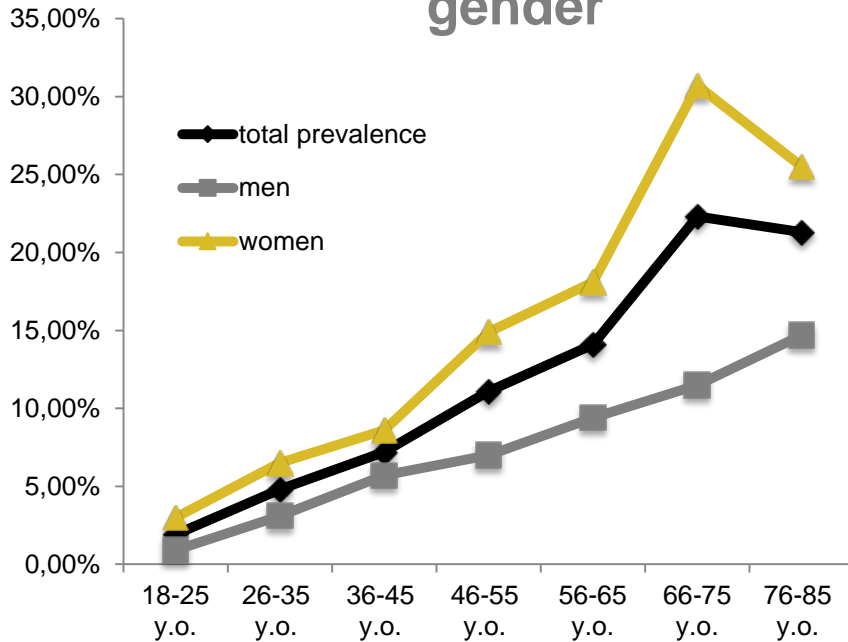
The burden of CLBP in adult Portuguese population

2nd Step

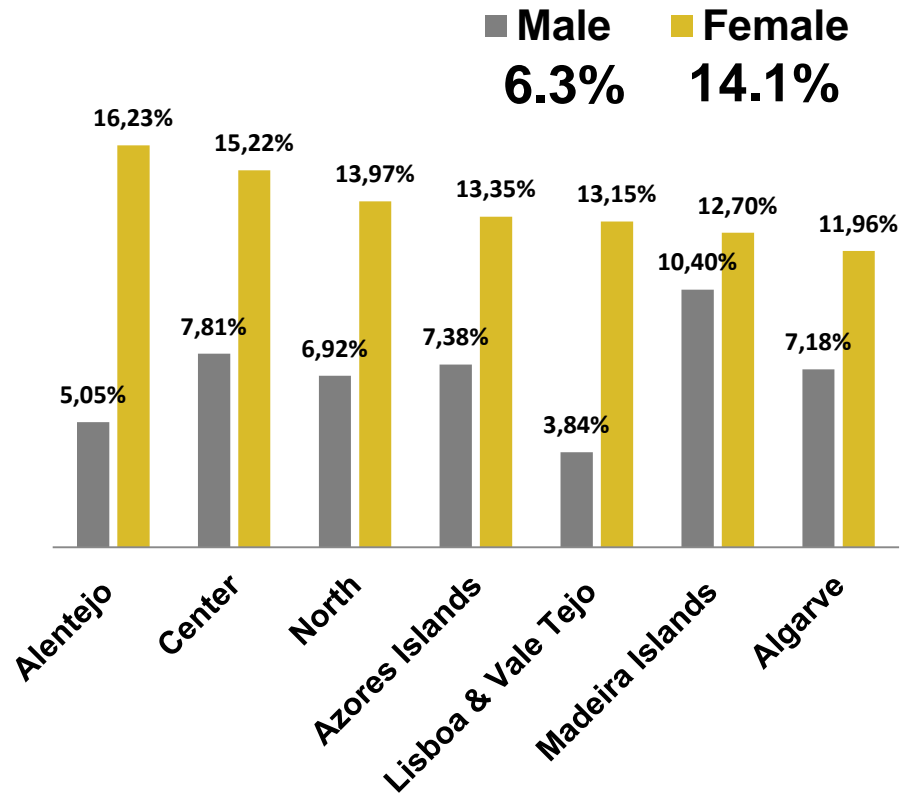
Global CLBP prevalence = 10.4% (CI 9.6%-11.2%)

900,353 Portuguese

CLBP by age group and by gender



CLBP by NUTS II and by gender



The burden of CLBP in Portuguese population



CLBP Characteristics

Intensity of Pain (mean)

6.03 ± 2.48 (global)
 6.19 ± 2.53 (female)
 5.65 ± 2.29 (male)

Pain: constant and progressive (%)

82.0% (global)
 82.6% (female)
 80.3% (male)

LBP in the previous 12 months (%)

97.7% (global)
 98.3% (female)
 96.0% (male)

Pain with irradiation (%)

60.9% (global)
 62.0% (female)
 58.2% (male)

Onset Age

40.78 ± 19.98 (global)
 41.20 ± 20.31 (female)
 39.71 ± 18.91 (male)

Persistent limitation of mobility (%)

52.6% (global)
 54.1% (female)
 48.6% (male)

Asked by medical care (%)⁴

63.1% (global)
 67.0% (female)
 53.0% (male)

The burden of CLBP in adult Portuguese population

2nd Step

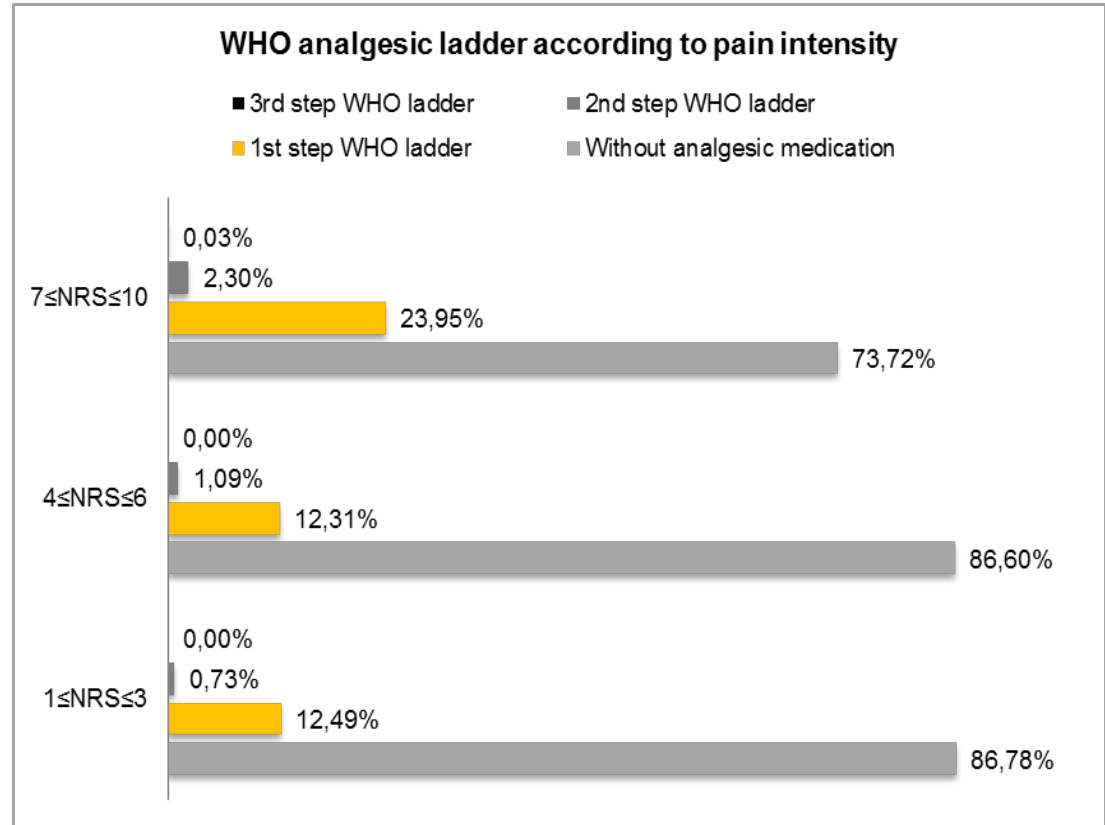
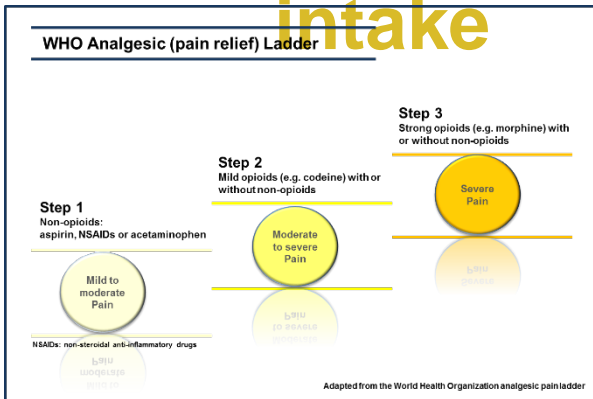
The use of analgesic and other pain relief drugs to manage chronic low back pain:

results from a national survey

Severe pain = 42%
 Moderate pain = 47%
 Mild pain = 11%

Main Results: Drug intake

intake



WHO analgesic ladder according to pain intensity

The burden of CLBP in adult Portuguese population

2nd Step

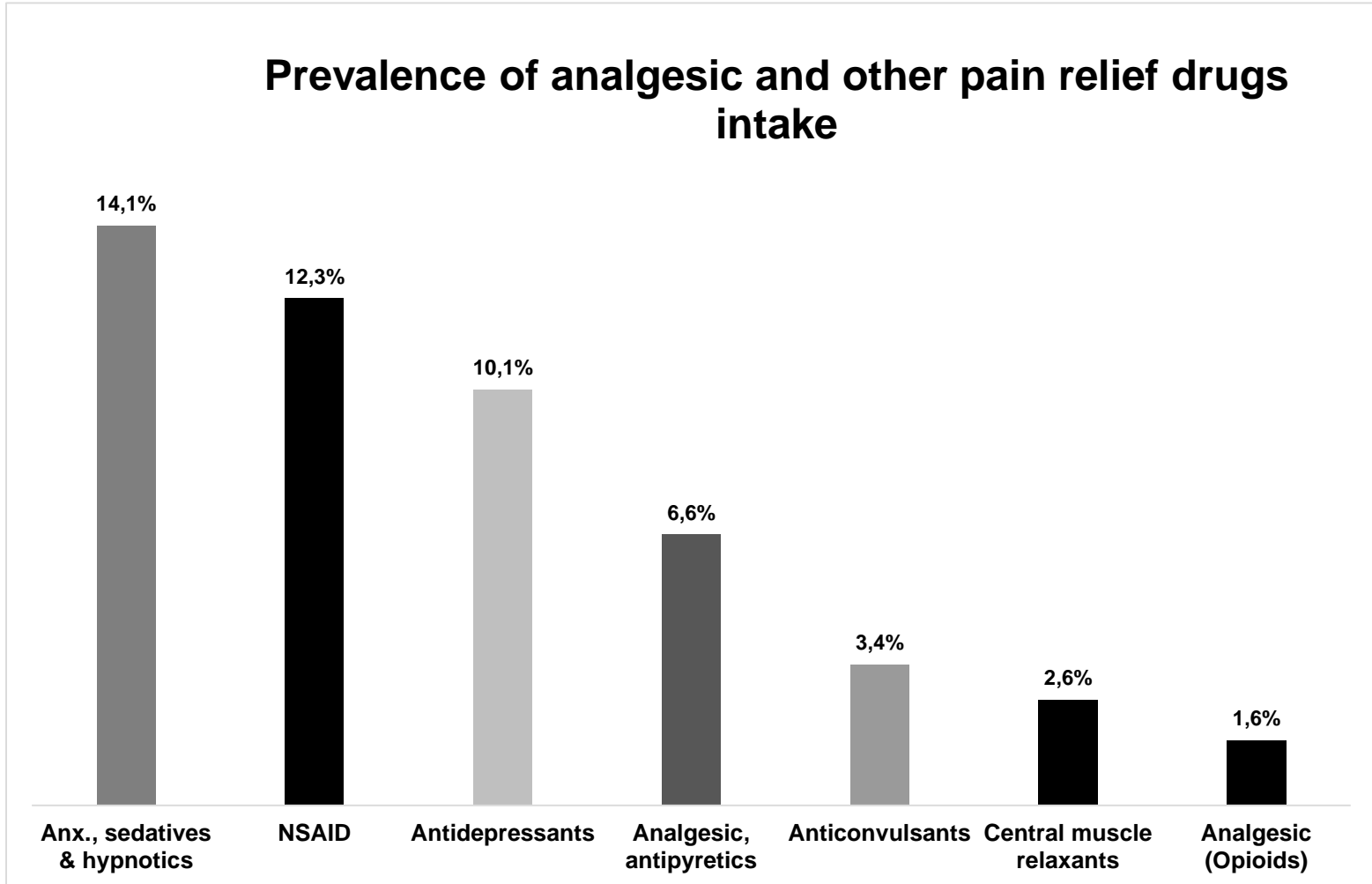


The use of analgesic and other pain relief drugs to manage chronic low back pain:

results from a national survey

Main Results: Drug

Prevalence of analgesic and other pain relief drugs intake

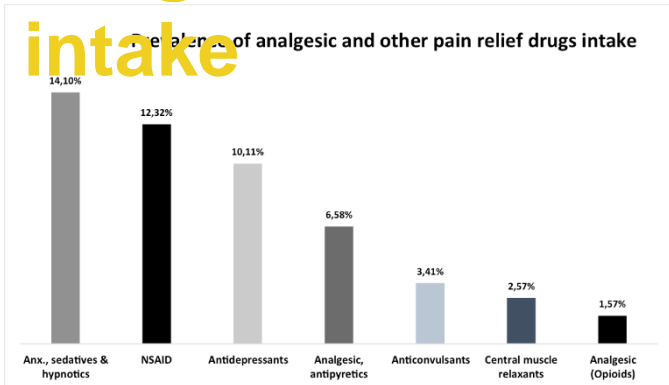


The burden of CLBP in adult Portuguese population

2nd Step

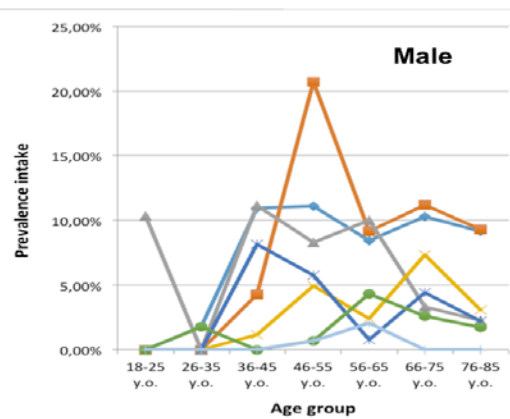
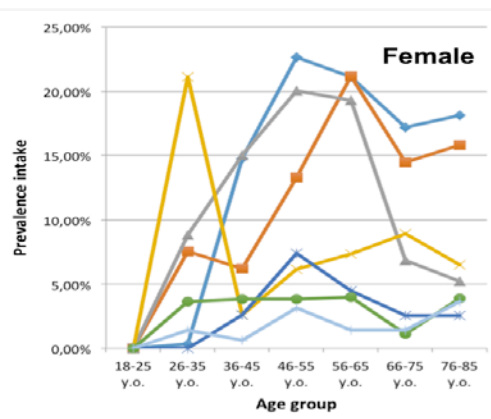
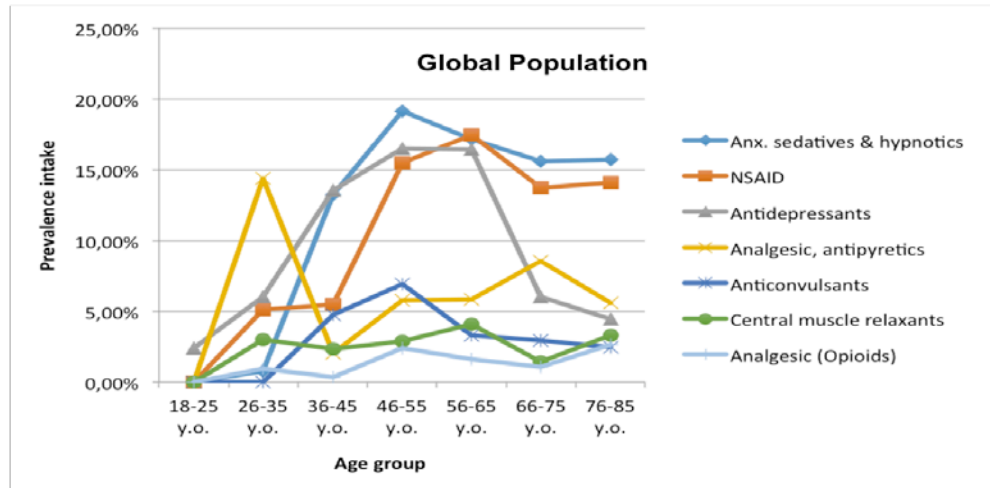
Use of analgesic and other pain relief drugs to manage chronic low back pain:
results from a national survey

Main Results: Drug intake



Analgesic and other pain relief drug

Analgesic and other pain relief drugs intake in patients with active CLBP according age group



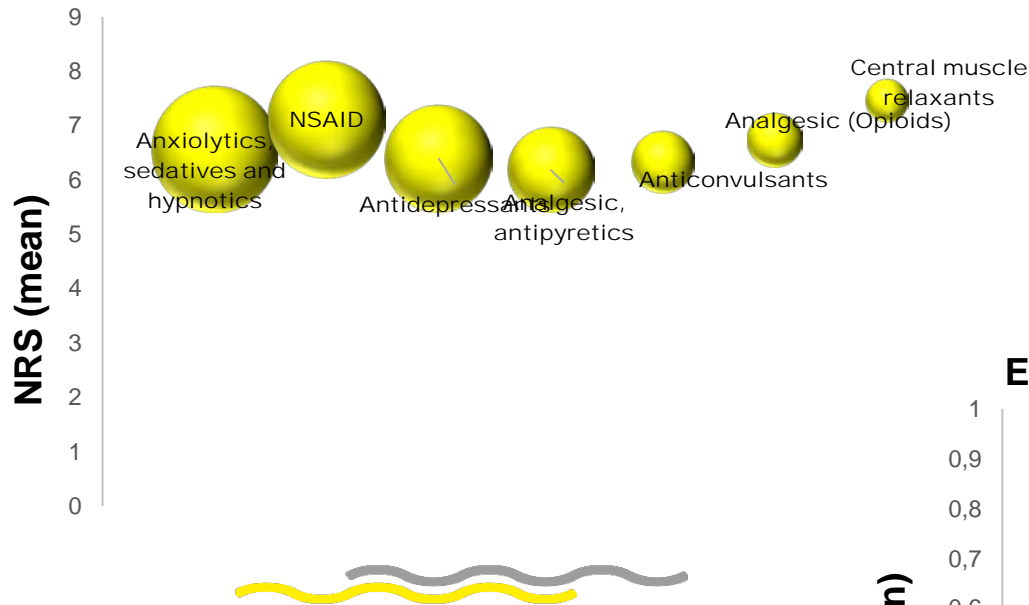
The burden of CLBP in adult Portuguese population

2nd Step



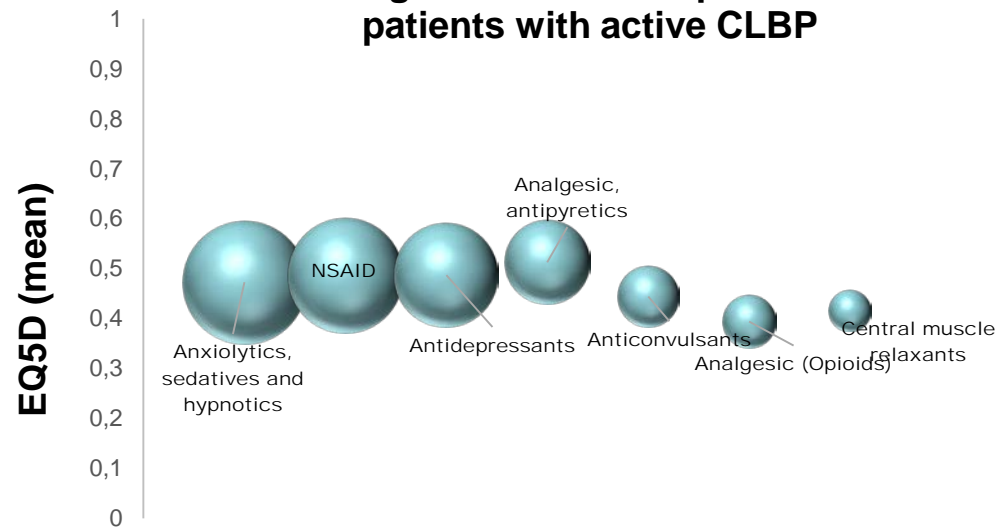
Use of analgesic and other pain relief drugs to manage chronic low back pain: results from a national survey

Pain intensity vs Analgesics and other pain relief drugs intake in patients with active CLBP



Main Results:
Drug intake

EQ5D vs Analgesics and other pain relief intake in patients with active CLBP



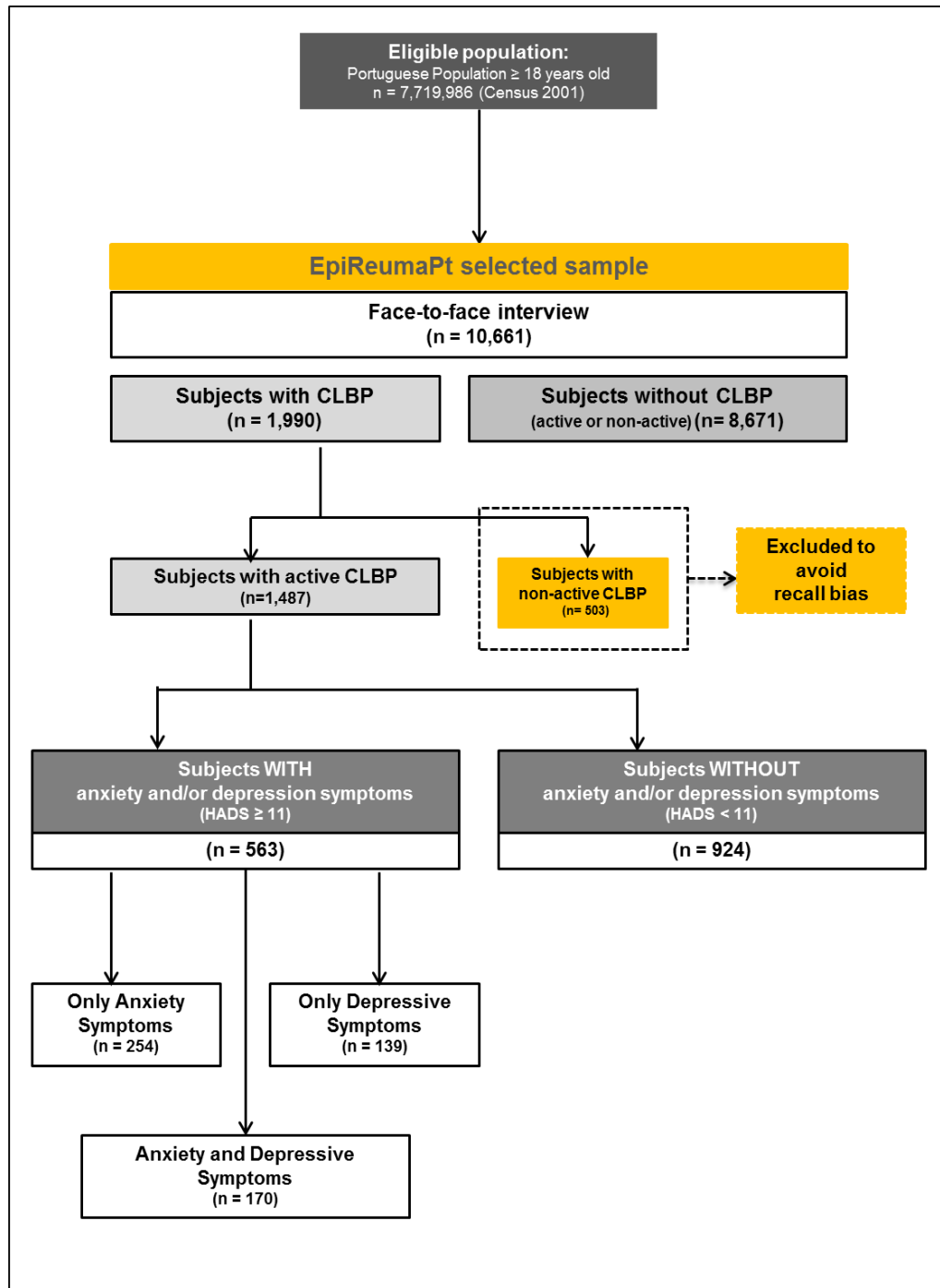
Active CLBP was significantly associated with the intake of all therapeutic groups, specially :

- . Antidepressants (OR=12.56; p<0.001)
- . Centrally acting muscle

2nd Step

Anxiety and depressive symptoms: an additional burden among a population with chronic low back pain?

Study design



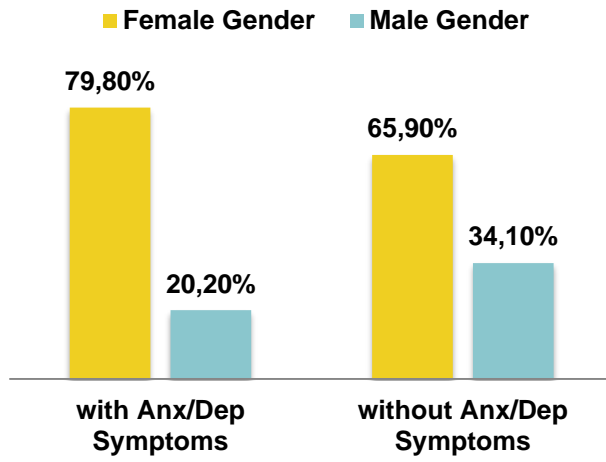
Anxiety and depressive symptoms: an additional burden to chronic low back pain? – results from national population-survey

2nd Step

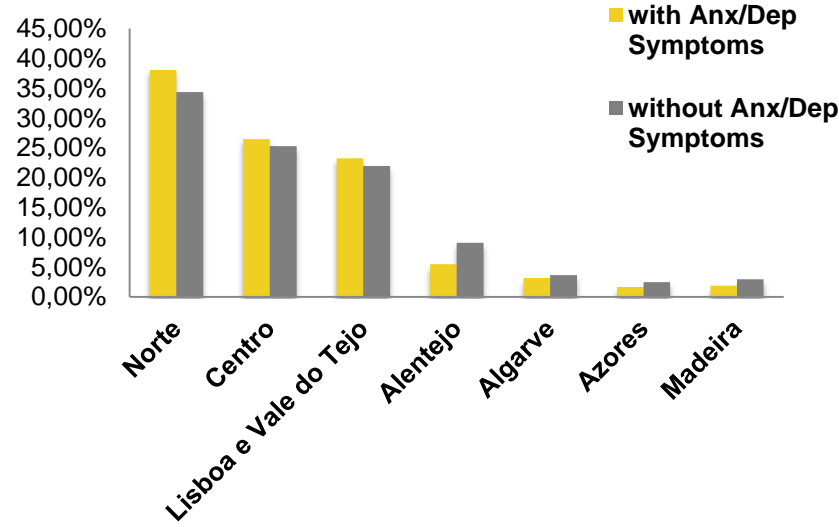
Sociodemographic

characteristic

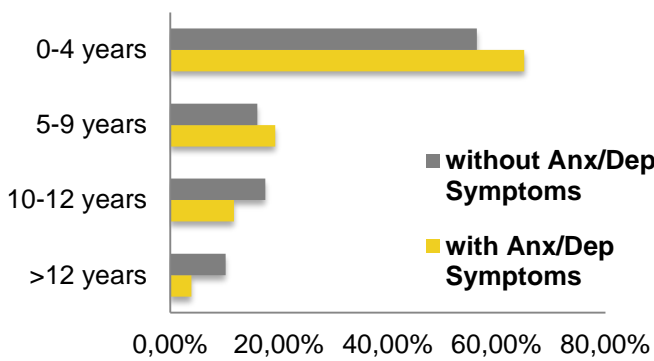
Gender



Anxiety and Depressive symptoms by NUTS II



Education level



Pain, Quality of life and Function

Pain and Quality of life	CLBP WITH anx./ depression (n=563)	CLBP WITHOUT anx./ depression (n=924)
Pain (0-10)	6.5±2.5	5.7±2.4
EQ5D (0-1)	0.4±0.3	0.6±0.3
HAQ (0-3)	1.1±0.9	0.7±0.8



Anxiety and depressive symptoms: an additional burden to chronic low back pain? – results from a national population-survey

2nd Step

39.4% of subjects with CLBP had anx/depre. symptoms

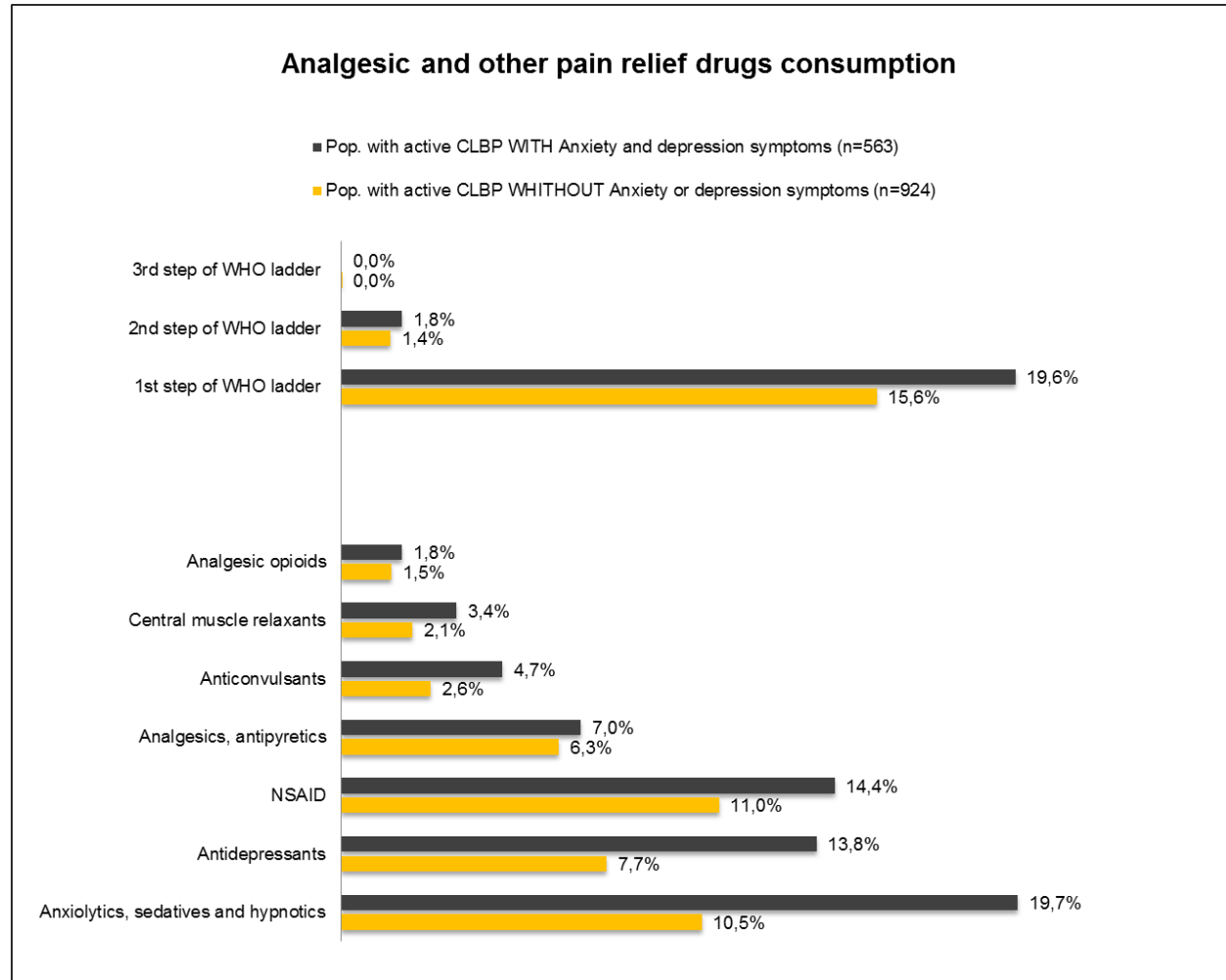
Severe pain: 52% vs 36%

Moderate pain: 42% vs 50%

Mild Pain: 6% vs 14%

21.4% under medication

Analgesic and other pain relief drug



Conclusions

The burden of CLBP in adult Portuguese
population



Prevalence & burden of CLBP

in adult Portuguese
population

Global CLBP prevalence = 10.4% (CI 9.6%-11.2%)

900,353 Portuguese

Main Results – Burden of

CLBP Intangible costs

Population with CLBP had:

- . **worse quality of life** (lower EQ5D scores ($\beta=-0.19$, $p<0.001$))
- . significantly higher HAQ score, reflecting **more disability** ($\beta=0.35$, $p<0.001$)
- . significantly **more prevalent anxiety and depressive symptoms** (OR=2.77, $p<0.001$ and OR=2.18; $p<0.001$, respectively)

Direct costs, the presence of active CLBP was associated with:

- . a significantly **higher consumption of healthcare resources**, such as physician visits, in the previous year ($\beta =2.65$, $p=0.018$).

Indirect costs:

- . early retirement (OR=1.88, $p=0.002$) was **significantly higher** in the active CLBP population

Prevalence & burden of CLBP in adult Portuguese population

Main Results: Drug intake

The presence of active CLBP was significantly associated with the intake of all therapeutic groups:

- . Antidepressants (OR=12.56; $p<0.001$)
- . Centrally acting muscle relaxants intake (OR=12.01; $p<0.001$)
- . Anticonvulsants (OR=9.27; $p<0.001$)
- . Anxiolytics, sedatives and hypnotics (OR=8.86; $p<0.001$)
- . NSAIDs (OR=8.56; $p<0.001$)
- . Analgesic opioids (OR=8.13; $p<0.001$)

Anxiety and depressive symptoms: an additional burden to chronic low back pain?

– results from a national population-survey



Main Results

Among subjects with CLBP, the presence of anxiety or depressive symptoms was associated with:

- . **worse quality of life** (EQ5D: $\beta=-0.11$; $p<0.001$)
- . **worse function** (HAQ: $\beta=0.29$; $p<0.001$)
- . **higher pain intensity** ($\beta=0.69$; $p<0.001$)
- . **higher likelihood of home care visits** (OR=3.65; $p=0.016$)
- . **higher likelihood of psychiatric visits** (OR=5.30; $p<0.001$), and **other physicians visits** (OR=0.58; $p<0.021$)



Anxiety and depressive symptoms: an additional burden to chronic low back pain?

– results from a national population-survey

Main topics:

High prevalence of anxiety and depressive symptoms in the adult Portuguese population with active CLBP

were associated with:

- . worse quality of life
- . worse function
- . higher pain intensity
- . higher likelihood of home care visits
- . higher likelihood of psychiatric visits and other physicians visits

Higher intake of:

- . Anxiolytics, sedatives and hypnotics
- . Antidepressants

What is needed to clarify?

Which comes first: pain chronicity/disability or psychological symptoms?

(taken into account the bidirectional relation)

Improving a new therapeutic approach among subjects with CLBP would be useful?

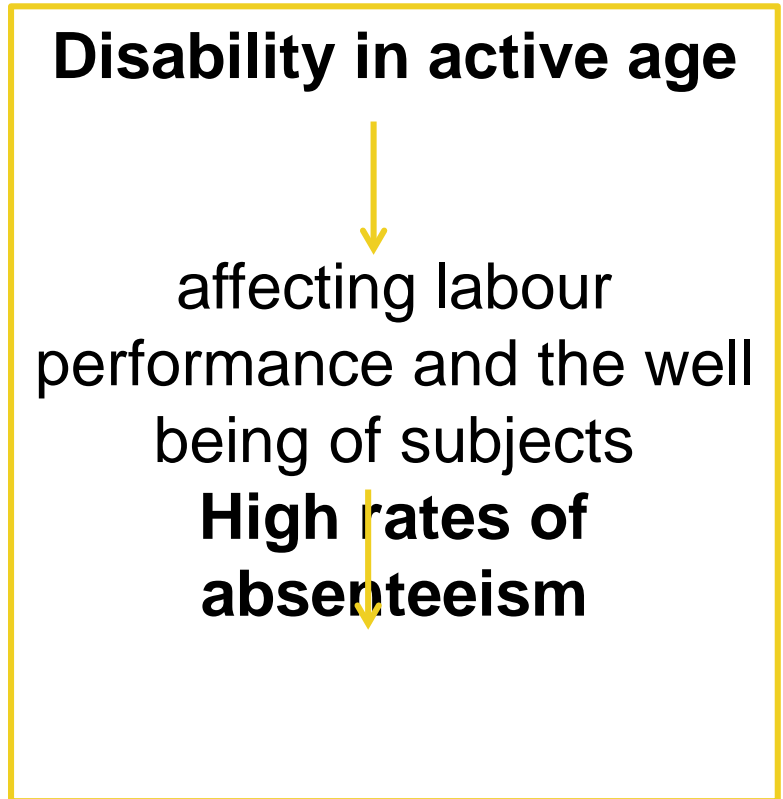
i.e.

a multidisciplinary clinical approach with an interface with psychiatry, with psychology, and with other health professionals


What is the role of

Prevalence & burden of CLBP in adult Portuguese population

Chronic Low Back Pain



Health condition undervalued by society?



High prevalence of symptoms
ANXIETY
DEPRESSION



How to decrease the burden of LBP?


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Additional Evidence – clinical studies:

To estimate:

- . the incidence of LBP and CLBP
- . the impact of LBP and CLBP on quality of life, socioeconomic (absenteeism, presenteeism, health care resources consumption, occupational factors, etc.), and clinical fields
- . the relationship over time between comorbidities (including RMD), psychological symptoms/disorders and CLBP

To allow a robust effectiveness study:

- . use of analgesic and other pain relief intake
 - . to better understand the self-medication profile and therapeutic regimens of subjects with LBP and CLBP
- 
- A decorative graphic element on the right side of the slide, consisting of two vertical wavy lines, one grey and one yellow.

How to decrease the burden of LBP?

A decorative wavy line with a yellow and grey gradient is positioned below the title.

Patient Education Programs & Government commitment:

1) **National prevention program** to promote:

- . ergonomic conditions
- . healthy life style habits
- . postural behaviors

targeted not only for the population, but also to schools, employers and care institutions.


2) A pilot study considering the hypothesis of a **specific pain physician appointment for this kind of RMD**, under the scope of Rheumatology or other clinical field

3) A **multidisciplinary approach** in CLBP management – a **complete network**:

Primary care, psychology, occupational therapy, physiotherapy, pharmacist



Closely with: rheumatology, physiatry, orthopedics, neurology, neurosurgery

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Thank you

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