

Epidemiology research using a practice based research network:

a case-control study embedded in a historical cohort about low back pain and comorbidities.

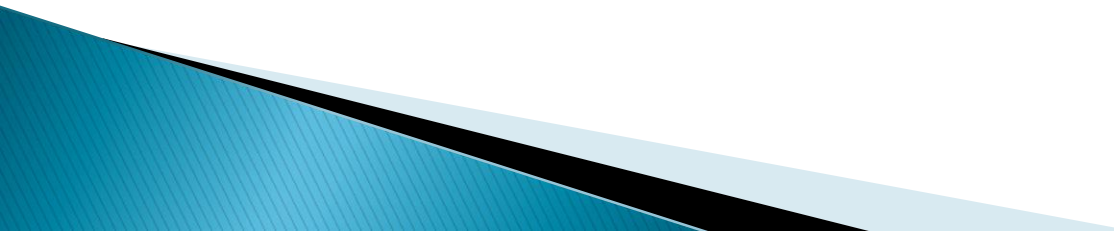
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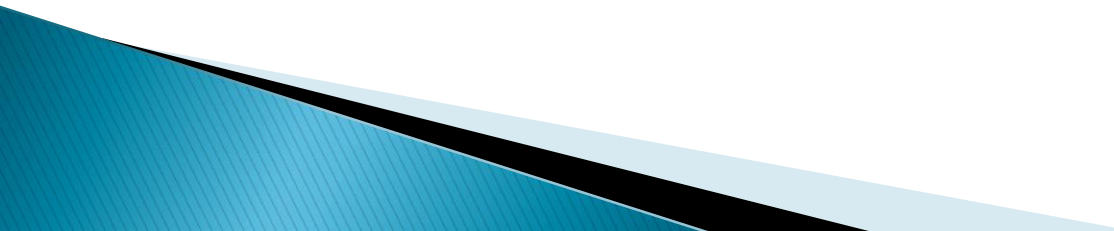
Background

- ▶ LBP in clinical practice
 - Common worldwide condition
 - Pain and disability
- ▶ LBP in literature
 - Associated comorbidities
 - Psychosocial
 - Musculoskeletal
 - Somatoform disorders

But

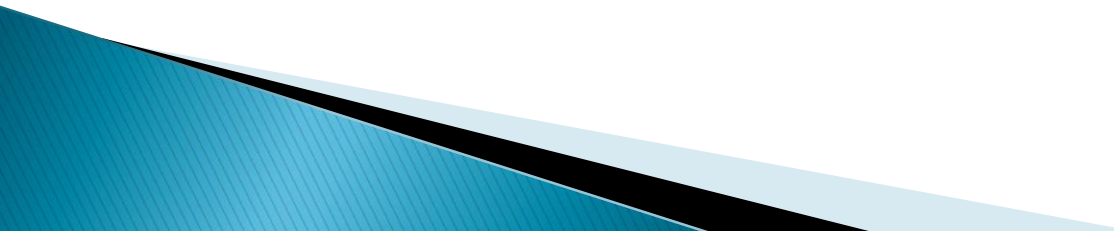
- Different setting
- Different tools

Research question

- ▶ Primary care setting
 - ▶ Chronic or Acute LBP
 - ▶ Comorbidities
 - Psychological
 - Social
 - Musculoskeletal
 - Somatoform disorders (PHQ-15)
- 

Database

► Transition Project

- Since 1985
 - Practice-based research network (PBRN)
 - 9 GPs
 - 4 practices
 - 15,000 patients
 - ICPC
- 

ICPC-2 – English

International Classification of Primary Care – 2nd Edition

Wonca International
Classification Committee
(WICC)



Process codes

-30	Medical Exam/Eval-Complete
-31	Medical Examination/Health Evaluation-Partial/Pre-op check
-32	Sensitivity Test
-33	Microbiological/Immunological Test
-34	Blood Test
-35	Urine Test
-36	Faeces Test
-37	Histological/Exfoliative Cytology
-38	Other Laboratory Test NEC
-39	Physical Function Test
-40	Diagnostic Endoscopy
-41	Diagnostic Radiology/Imaging
-42	Electrical Tracings
-43	Other Diagnostic Procedures
-44	Preventive Immunisations/Medications
-45	Observe/Educate/Advice/Diet
-46	Consult with Primary Care Provider
-47	Consultation with Specialist
-48	Clarification/Discuss Patient's RFE
-49	Other Preventive Procedures
-50	Medicat-Script/Reqst/Renew/Inject
-51	Incise/Drain/Flush/Aspirate
-52	Excise/Remove/Biopsy/Destruction/Debride
-53	Instrument/Catheter/Intubate/Dilate
-54	Repair/Fixate-Suture/Cast/Prosthetic
-55	Local Injection/Infiltration
-56	Dress/Press/Compress/Tamponade
-57	Physical Medicine/Rehabilitation
-58	Therapeutic Counselling/Listening
-59	Other Therapeutic Procedure NEC
-60	Results Tests/Procedures
-61	Results Exam/Test/Record
-62	Administrative Procedure
-63	Follow-up Encounter Unspecified
-64	Encounter Initiated by Provider
-65	Encounter Initiated third person
-66	Refer to Other Provider (EXCL. M.D.)
-67	Referral to Physician/Specialist/Clinic/Hospital

Blood, Blood Forming Organs and Immune Mechanism

B

B02	Lymph gland(s) enlarged/painful
B04	Blood symptom/complaint
B25	Fear of aids/HIV
B26	Fear cancer blood/lymph
B27	Fear blood/lymph disease other
B28	Limited function/disability
B29	Sympt/complmt lymph/immune other
B70	Lymphadenitis acute
B71	Lymphadenitis non-specific
B72	Hodgkin's disease/lymphoma
B73	Leukaemia
B74	Malignant neoplasm blood other
B75	Benign/unspecified neoplasm blood
B76	Ruptured spleen traumatic
B77	Injury blood/lymph/spleen other
B78	Hereditary haemolytic anaemia
B79	Congen.anom. blood/lymph other
B80	Iron deficiency anaemia
B81	Anaemia, Vitamin B12/folate def.
B82	Anaemia other/unspecified
B83	Purpura/coagulation defect
B84	Unexplained abnormal white cells
B87	Splenomegaly
B90	HIV-infection/aids
B99	Blood/lymph/spleen disease other

PROCESS CODES

SYMPTOMS/COMPLAINTS

INFECTIONS

NEOPLASMS

INJURIES

CONGENITAL ANOMALIES

OTHER DIAGNOSES

Digestive

D

D01	Abdominal pain/cramps general
D02	Abdominal pain epigastric
D03	Heartburn
D04	Rectal/anal pain
D05	Perianal itching

Eye

F

F01	Eye pain
F02	Red eye
F03	Eye discharge
F04	Visual floaters/spots
F05	Visual disturbance other
F13	Eye sensation abnormal
F14	Eye movements abnormal
F15	Eye appearance abnormal
F16	Eyelid symptom/complaint
F17	Glasses symptom/complaint
F18	Contact lens symptom/complaint
F27	Fear of eye disease
F28	Limited function/disability (f)
F29	Eye symptom/complaint other
F70	Conjunctivitis infectious
F71	Conjunctivitis allergic
F72	Blepharitis/stye/chalazion
F73	Eye infection/inflammation other
F74	Neoplasm of eye/adnexa
F75	Contusion/haemorrhage eye
F76	Foreign body in eye
F79	Injury eye other
F80	Blocked lacrimal duct of infant
F81	Congenital anomaly eye other
F82	Detached retina
F83	Retinopathy
F84	Macular degeneration
F85	Corneal ulcer
F86	Trachoma
F91	Refractive error
F92	Cataract
F93	Glaucoma
F94	Blindness
F95	Strabismus
F99	Eye/adnexa disease, other

Ear

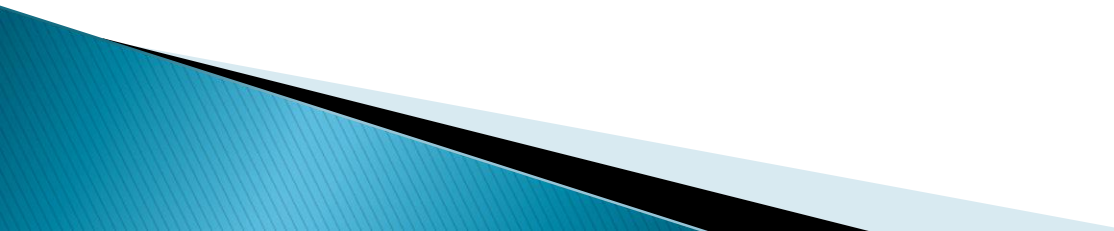
H

H01	Ear pain/earache
H02	Hearing complaint
H03	Tinnitus, ringing/buzzing ear
H04	Ear discharge
H05	Bleeding ear
H13	Plugged feeling ear
H15	Concern with appearance of ears
H27	Fear of ear disease
H28	Limited function/disability ear
H29	Ear symptom/complaint other
H70	Otitis externa
H71	Acute otitis media/myringitis
H72	Serous otitis media
H73	Eustachian salpingitis
H74	Chronic otitis media
H75	Neoplasm of ear

Musculoskeletal

L01	Neck symptom/complaint
L02	Back symptom/complaint
L03	Low back symptom/complaint
L04	Chest symptom/complaint
L05	Flank/axilla symptom/complaint
L07	Jaw symptom/complaint
L08	Shoulder symptom/complaint
L09	Arm symptom/complaint
L10	Elbow symptom/complaint
L11	Wrist symptom/complaint
L12	Hand/finger symptom/complaint
L13	Hip symptom/complaint
L14	Leg/thigh symptom/complaint
L15	Knee symptom/complaint
L16	Ankle symptom/complaint
L17	Foot/toe symptom/complaint
L18	Muscle pain
L19	Muscle symptom/complaint
L20	Joint symptom/complaint
L26	Fear of cancer musculoskeletal
L27	Fear musculoskeletal disease
L28	Limited function/disability
L29	Sympt/complmt. Musculoskeletal
L70	Infections musculoskeletal
L71	Malignant neoplasm musculoskeletal
L72	Fracture: radius/ulna
L73	Fracture: tibia/fibula
L74	Fracture: hand/foot bone
L75	Fracture: femur
L76	Fracture: other
L77	Sprain/strain of ankle
L78	Sprain/strain of knee
L79	Sprain/strain of joint NC
L80	Dislocation/subluxation
L81	Injury musculoskeletal
L82	Congenital anomaly musculoskeletal
L83	Neck syndrome
L84	Back syndrome w/o rad
L85	Acquired deformity of spine
L86	Back syndrome with rad
L87	Bursitis/tendinitis/synov
L88	Rheumatoid/seropositiv
L89	Osteoarthritis of hip
L90	Osteoarthritis of knee
L91	Osteoarthritis other
L92	Shoulder syndrome
L93	Tennis elbow
L94	Osteochondrosis
L95	Osteoporosis
L96	Acute internal damage
L97	Neoplasm benign/unsp
L98	Acquired deformity of li
L99	Musculoskeletal disea

Fit the database

- ▶ Most of the work
 - ▶ Every term is important
 - ▶ LBP (code, duration)
 - ▶ Age
 - ▶ Period (1y before, 2y after)
 - ▶ Which episode ? 1st only
 - Patient scale or episode scale ?
 - Discussion with technician: possible ?
- 

Historical cohort embedded case-control study

- ▶ >18 yo
- ▶ LBP between 1 January 1996 and 1 February 2013
- ▶ Non specific LBP <90 days or ≥ 90 days
- ▶ 1st episode
- ▶ No-LBP matched controls
 - Gender, age, practice, index date
- ▶ Comorbidities
 - 1y before index date, 2y after

Population

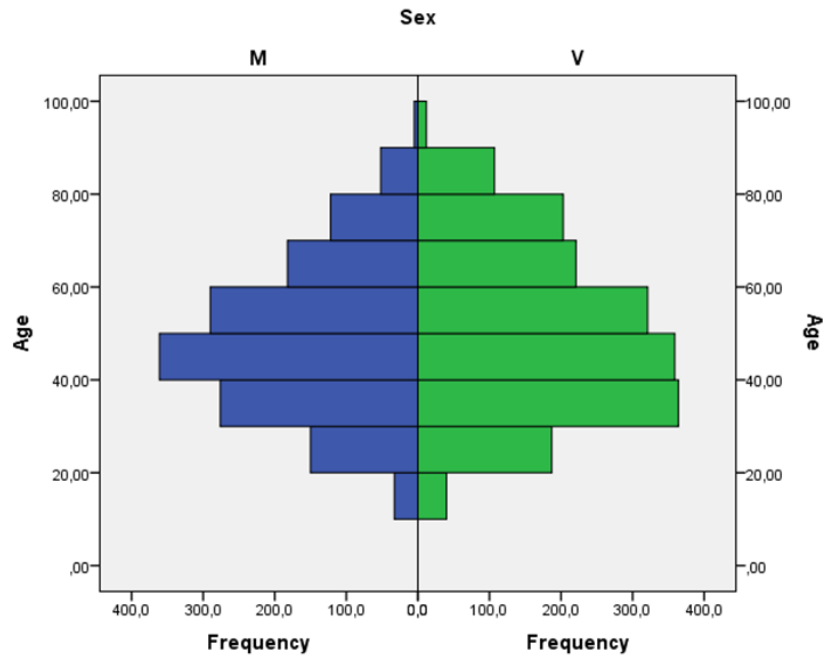


Figure 1: Sex/age repartition in frequency of the cases with an acute episode of low back pain

Acute: 3285 patients

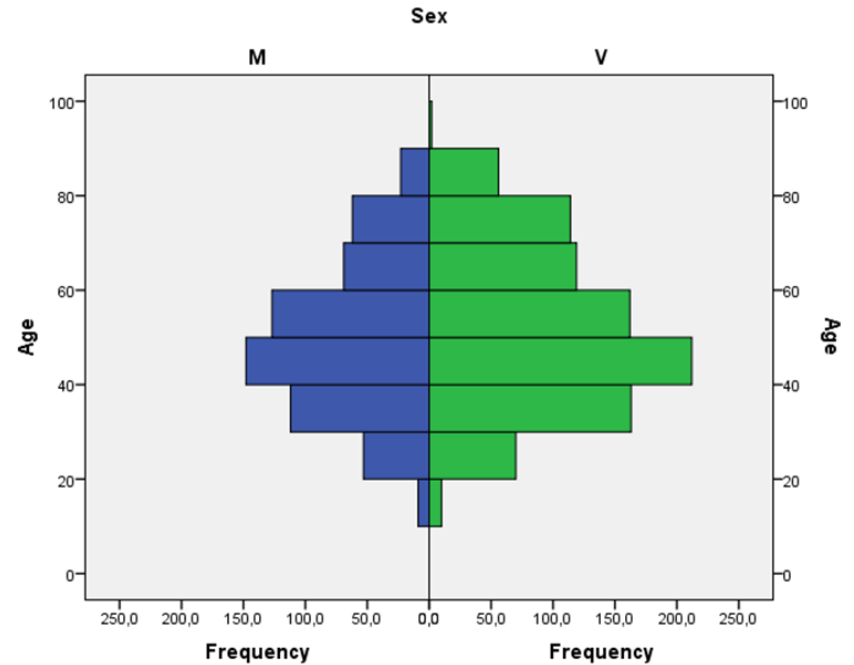


Figure 3: Sex/age repartition in frequency of the cases with chronic episode of low back pain

Chronic: 1511 patients

Results

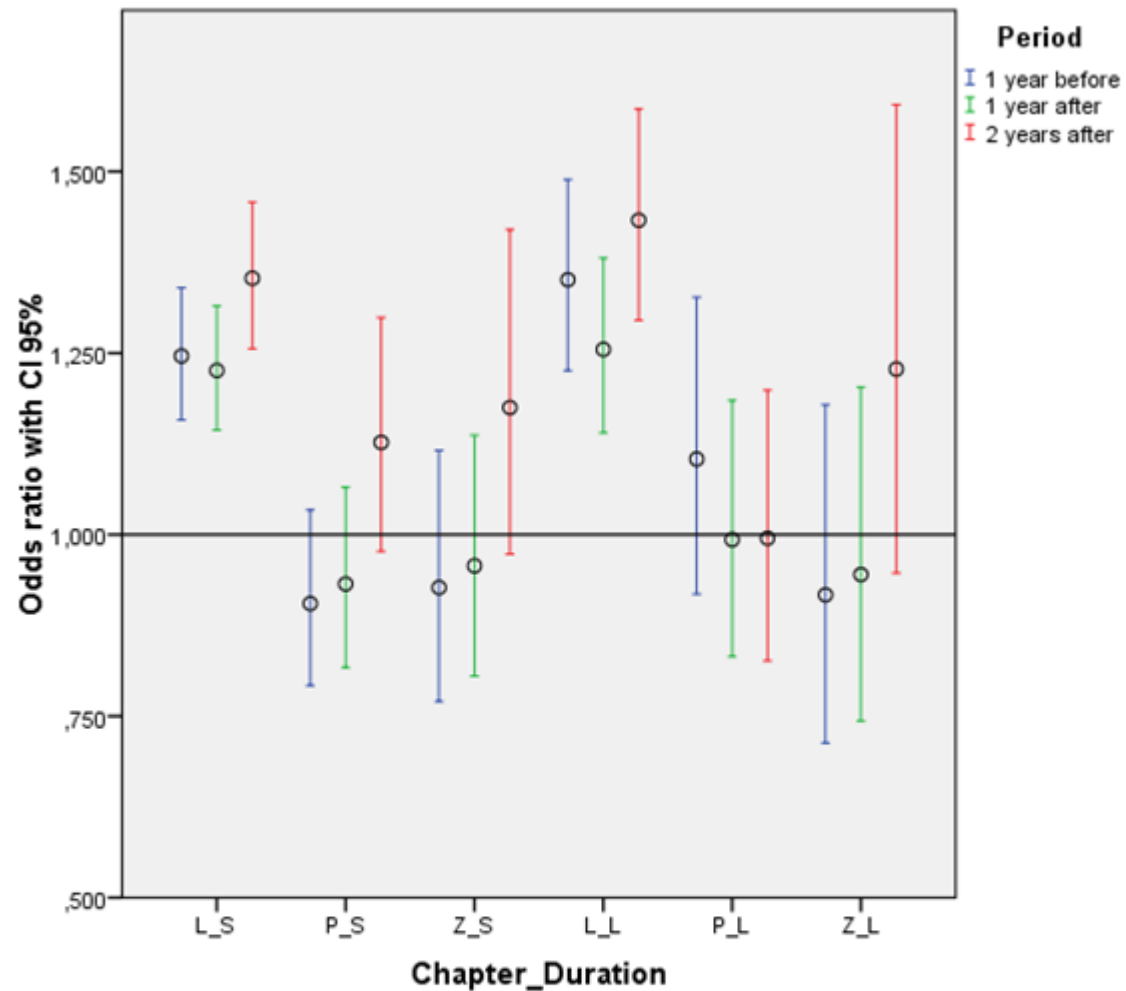


Figure 5: Odds ratio with 95% CI for ICPC-2 chapters in each new episode per time period compared between cases and controls

L = musculoskeletal

P = psychological

Z = social

_S = acute episode

_L = chronic episode

Discussion

- ▶ Psychological
 - ▶ Social
 - ▶ Somatoform disorders
- } not more often
- ▶ More musculoskeletal issues
 - ▶ → consider all musculoskeletal complaints
 - ▶ → no systematic screening of others
 - ▶ → but keeping aware of all complaints

En conclusion

► PBRN :

◦ Utilisation :

- Grande population
- Variété des données
- Facilité d'emploi
- Difficulté : critères d'inclusion

◦ Participation :

- DPC
- Continuité pratique clinique–recherche

Merci !

