



Biomechanical constraints remain major risk factors for low back pain : results from a prospective cohort study in French male employees

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Biomechanical constraints remain major risk factors for low back pain

Prospective study among French workers



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INTRODUCTION

Low back pain (LBP) in France : A major public health problem



One in two adults suffer from LBP at least once a year¹



Direct costs for chronic LBP : ~ 715 € per patient every 6 months²



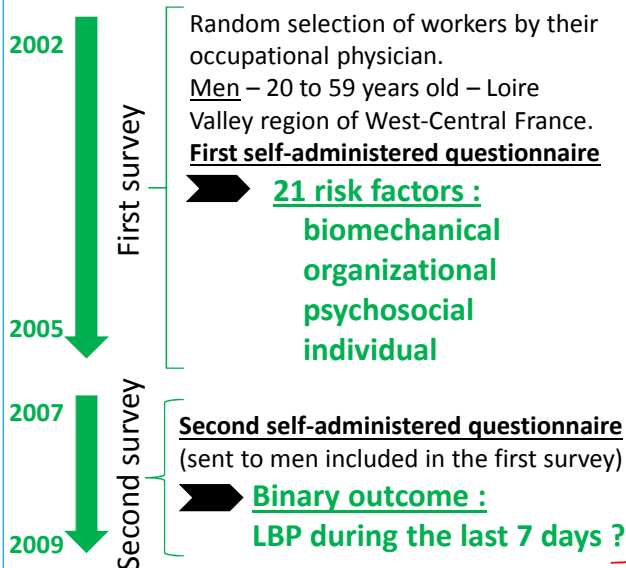
Impact on occupational settings :
LBP = the most frequent reason for sick leave³

OBJECTIVE

Prospective modelling of the risk of LBP in the French male working population

METHODS

Design : Cohort prospective study



Statistical analysis:

Multivariate and multi-step logistic modelling of the risk of LBP in the male workers.

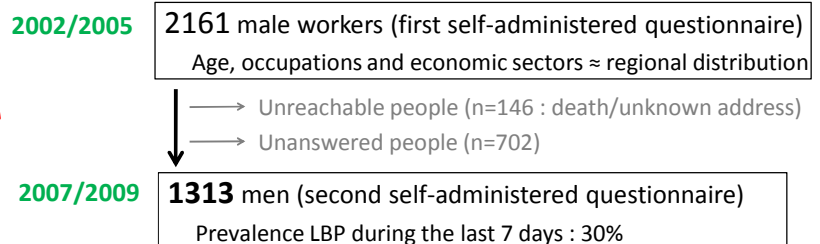
Selection of statistically significant risk factors ($p < 0.05$) and confounding factors.

Ethical aspects :

Written consent from the workers - Authorization from the National Commission of Data Protection

RESULTS

Study population :



Final multivariate model (n=1255 due to missing data):

RISK FACTORS		OR (IC 95) [†]
Frequent bending (more than 2 hours daily)	No	1
	Forward	1.45 (1.07-1.97)
	Sideways	1.78 (0.74-4.27)
	Both	2.13 (1.52-3.00)
Driving industrial vehicles	Never	1
	Occasionally/Often	1.35 (1.00-1.81)
Working more hours than officially planned	No	1
	Yes	1.38 (1.05-1.81)
Low support from supervisors	No	1
	Yes	1.35 (1.02-1.79)
Low skill discretion	No	1
	Yes	1.28 (0.95-1.72)

[†] Odds-ratios for LBP and confidence intervals at 95%

DISCUSSION & CONCLUSION

Prospective study ; diversified cohort of male workers ; numerous risk factors

→ Useful and relevant to the development of **public health policy** for workers.

Current research on LBP focus on psychosocial factors.

However biomechanical constraints (frequent bending, driving industrial vehicles) remain major risk factors that deserve to be considered in primary prevention !

REFERENCES

- Gourmelen J, Chastang JF, Ozguler A et al. Frequency of low back pain among men and women aged 30 to 64 years in France. Results of two national surveys. Ann Readapt Med Phys. 2007 Nov;50(8):640-4, 633-9
- Depont F, Hunsche E, Abouelfath A et al. Medical and non-medical direct costs of chronic low back pain in patients consulting primary care physicians in France. Fundam Clin Pharmacol. 2010 Feb;24(1):101-8.
- Caisse Nationale d'Assurance Maladie - Travailleurs Salariés.