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PATTERNS OF LUMBAR PAIN:

DOES REALLY EXIST ANY DIFFERENCE BETWEEN THE MUSCULAR, THE FACET SYNDROME AND NEUROLOGIC PATTERNS? A COST SUBANALYSIS OF THE 6 DIFFERENT PATTERNS OF LUMBAR PAIN GROUPED BY THREE RETROSPECTIVE COHORTS OF 1251 PATIENTS.

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DISCLOSURE

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•This research does not contain explicit information about medical device(s)/drug(s).

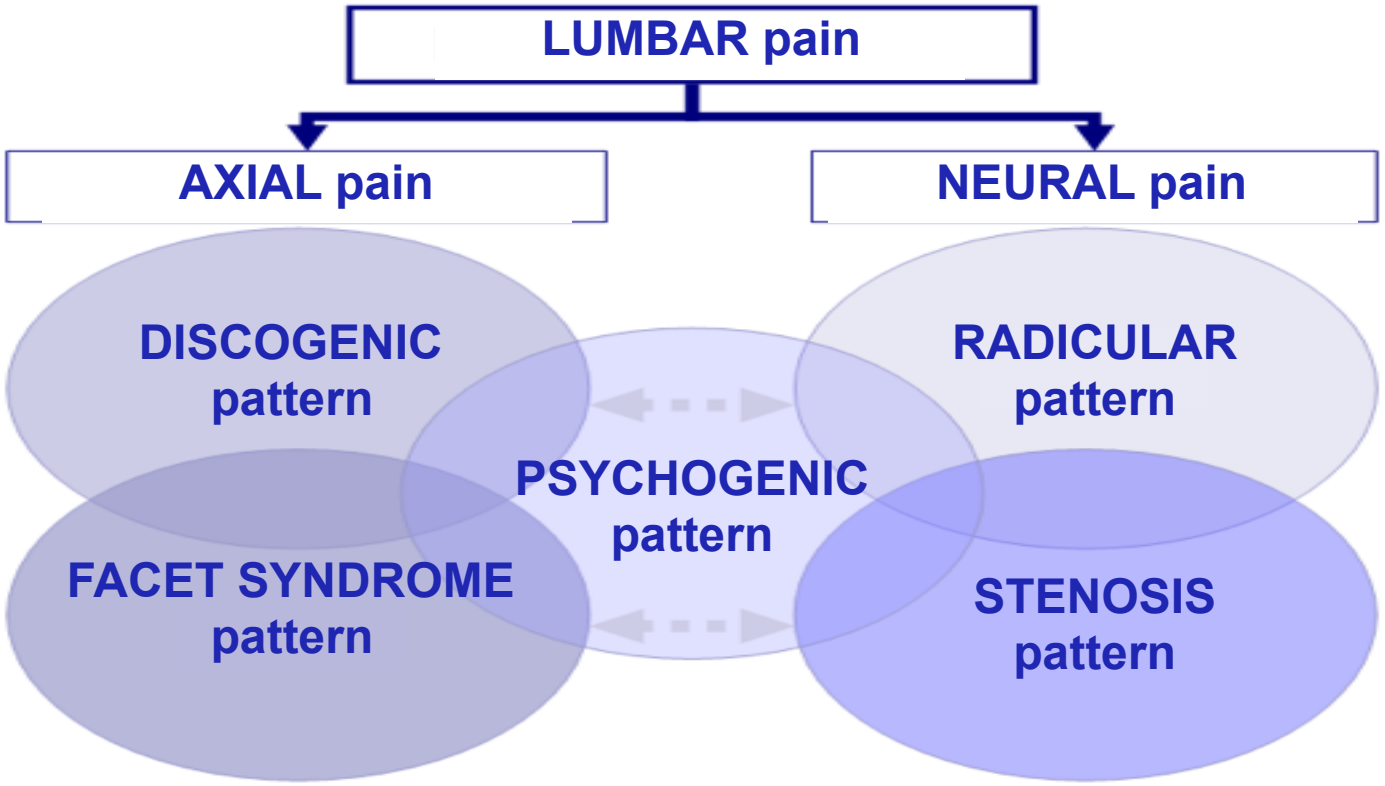
•No benefits in any form have been or will be received from a commercial party related directly or indirectly to the subject of this research.

OBJECTIVE

1. We present a cost analysis study of three different groups of lumbar pain in primary care in the working population by grouping patients according to different pain patterns noted during history taking and physical examination.

2. The aim is to assess the cost and effectiveness of the three groups and whether differences exist between them in order to find out the pattern of back pain that can generate more spending.

LOW BACK PAIN PATTERNS I



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LOW BACK PAIN PATTERNS II

	AREA OF PAIN	RADIATION	TYPE OF PAIN	EXAMINATION
1 DISCOGENIC	Central low back and/ or buttocks	No	Constant or intermittent	Worsens with bending
2 FACET SYNDROME	Localised central low back and/or buttocks	Non-segmental radiation	Recurrent	Worsens with stretching and increases with repetition
3 RADICULAR	Below the buttocks	Radicular signs below the knee	Constant	Influenced by movements and position of the spinal column
4 CANAL STENOSIS	Below the buttocks	Non-segmental radiation	Intermittent	Triggered by neurogenic claudication
5 PSYCHOGENIC	Moves around, non-localised	No	Constant excessive with added symtoms (sleep disorders, mood swings, etc.)	Variable
6 MUSCULAR	Sudden onset (overexertion) on both or one side of low back	No	Constant and/or localised dysaethesia	In movements involving the affected muscle
7 DEGENERATIVE	Low back	Variable	Insidious evolution over years	Worsens with repeated movements, no functional blocks
8 MIXED				

MATERIAL AND METHODS I

We performed a retrospective study of three cohorts of patients treated for lumbar pain at our Worker's compensation insurance company, in the Basque Country (Spain) in 2014.

The first group of patients were managed according to the *"muscular"* pattern of lumbar pain (G1; n=900), the second group of patients were managed according to the *"facet syndrome"* pattern (G2; n=159) and the third group, the *"neurologic" pattern* (G3; n=192) was composed with the rest of the patterns (discogenic, radicular, stenosis and degenerative).

Diagnosis, number of sick days and mean duration, sick leave indication, number of complementary tests, pharmacy cost, hospital admissions and hospital stay, number of medical visits, surgical interventions and pain management, referrals to physical therapy (duration of treatment and type of therapy) and all their costs were studied.

MATERIAL AND METHODS II

A statistical analysis was performed using SPSS 19.0® software:

1. When the quantitative measurements did not follow a normal distribution (Kolmogorov-Smirnov test), a Kruskal-Wallis test for quantitative measurements was performed.

2. A Post-Hoc subanalisys was made with a Mann-Whitney's test.

3. For qualitative measurements a Pearson`s chi-squared test (a Fisher's exact test when n<5) were performed

4. All test were made with a sensitivity of 95% (p<0,05).

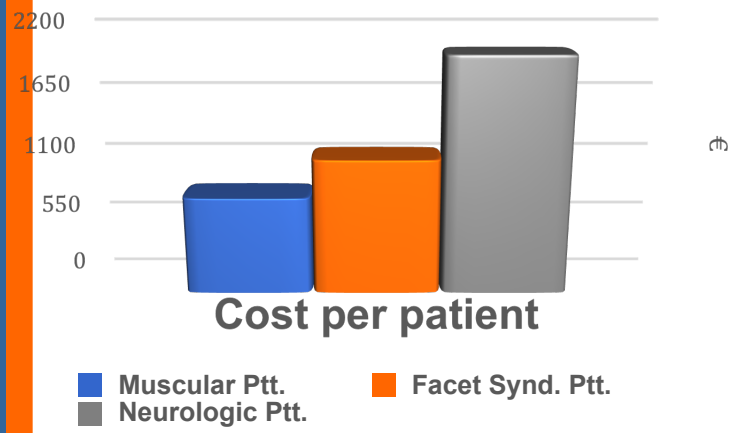
RESULTS I

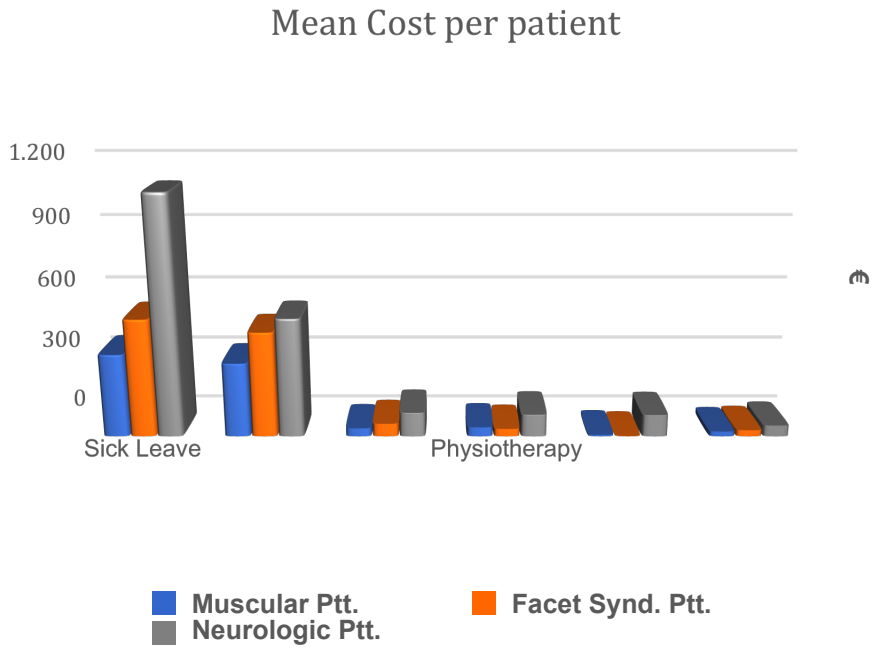
Total Cost (2014)	1.461.560,29 €
Cost per patient (mean)	1.301,48 €
Cost per day (mean)	26.068,72 €
Total Cost per sick day	733.234,71 €
Consultation's Cost (total)	527.807,24 €
Complementary tests' Cost (total)	69.322,24 €
Physical Therapy's Cost (total)	62.945,01 €
Pharmacy's Cost (total)	37.304,24 €
Surgical Interventions' Cost (total)	46.828,21 €

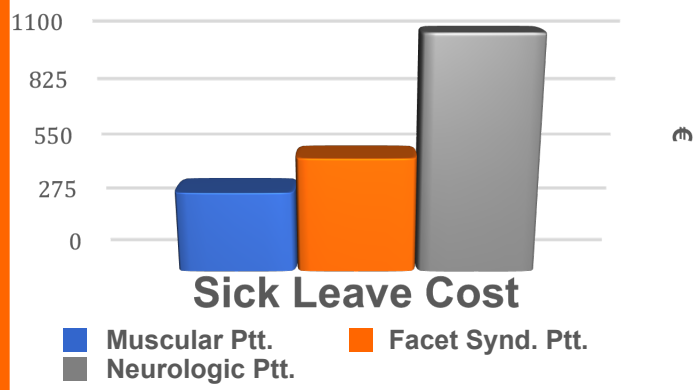
RESULTS II

€	Cost per patient
Muscular Ptt.	829,03
Facet Synd. Ptt.	1153,74
Neurologic Ptt.	2010,99

€	Sick Leave	Consultations	Compl. Test	Physiotherapy	Hospt stay + Surgery	Pharmacy cost
Muscular Ptt.	378,43	338,59	37,53	42,14	6,80	22,73
Facet Synd. Ptt.	538,74	480,24	58,94	34,79	1,11	28,85
Neurologic Ptt.	1097,53	543,47	110,37	101,50	99,21	50,21







€	Sick Leave Cost
Muscular Ptt.	378,42
Facet Synd. Ptt.	538,74
Neurologic Ptt.	1097,53

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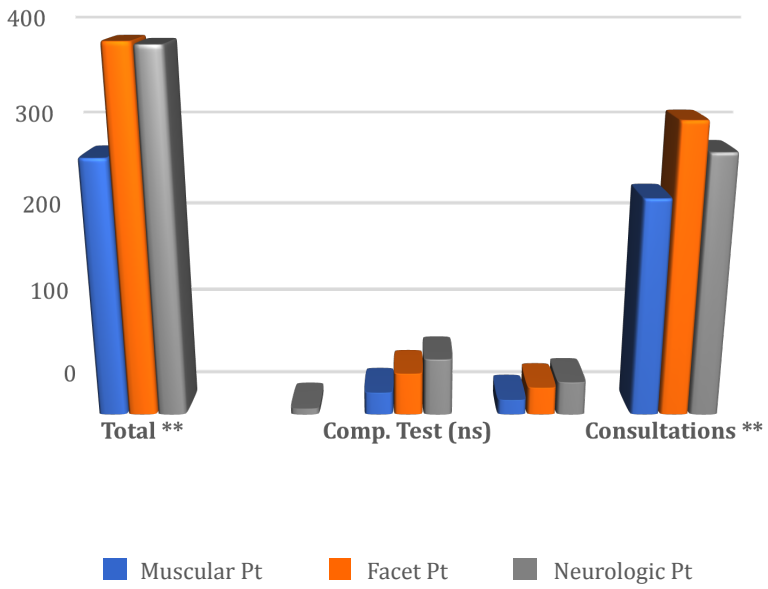
RESULTS III

*p<0,05
**p<0,01

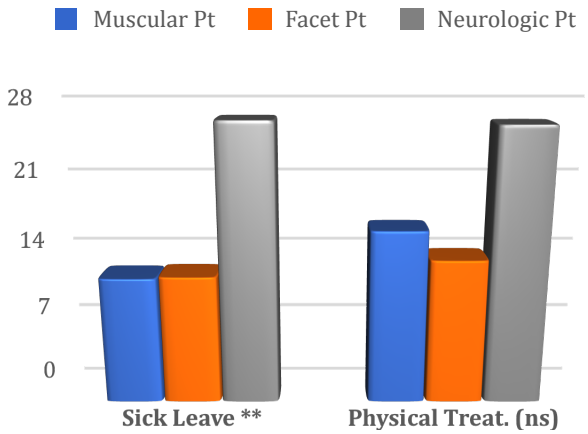
€	Cost Distribution No Sick Leave Cases				
	Total **	Hosp./Surgery. *	Comp. Tests (ns)	No Surg. treat **	Consultations **
Muscular Ptt.	273,09	0,00	24,41	16,23	232,45
Facet Synd. Ptt.	386,07	0,00	45,68	30,01	310,38
Neurologic Ptt.	383,06	6,65	61,52	36,04	278,85

(Days)	Mean Duration All Cases	
	Sick Leave **	Physical Treat. (ns)
Muscular Pt	12,16	16,67
Facet Pt	12,31	13,90
Neurologic Pt	26,58	26,21

Mean Cost Distribution
No Sick Leave cases



Mean Duration All cases



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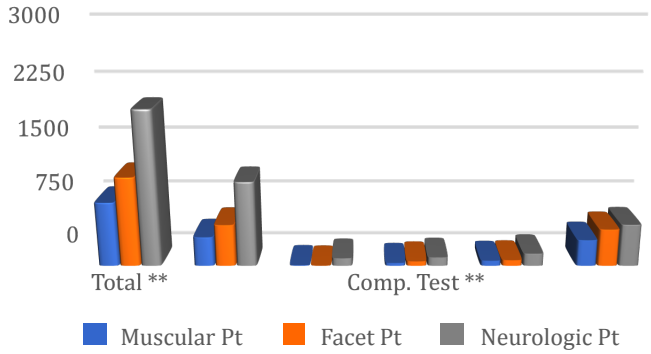
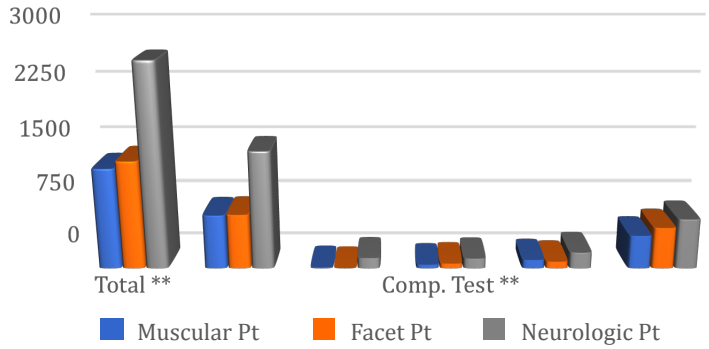
RESULTS I

*p<0,05
**p<0,01





Cost Distribution

All Cases

(Unit: Euros)	Total **	Sick Leave**	Hosp./ Surgery **	Comp. Test **	No Surg. treat **	Consultations **
Muscular Pt	829,03	378,43	6,80	37,53	67,69	338,59
Facet Pt	1153,74	538,74	1,11	58,94	74,72	480,24
Neurologic Pt	2010,99	1097,53	99,21	110,37	160,41	543,47

Cost Distribution

Sick Leave Cases

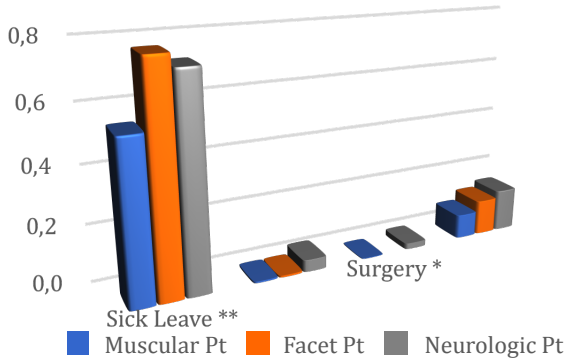
(Unit: Euros	Total **	Sick Leave**	Hosp./ Surgery **	Comp. Test **	No Surg. treat **	Consultations **
Muscular Pt	1292,13	693,65	12,46	48,46	110,55	427,00
Facet Pt	1386,56	702,12	1,44	62,96	88,28	531,75
Neurologic Pt	2631,72	1516,01	134,51	129,00	207,84	644,36

Incidence All Cases

Incidence

All Cases

?????	Sick Leave **	Hosp. Admiss**	Surgery *	Physical Treat. *
Muscular Pt	0,546	0,006	0,002	0,087
Facet Pt	0,767	0,006	0,000	0,126
Neurologic Pt	0,724	0,042	0,021	0,151



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CONCLUSIONS I

We found differences in the cost between the muscular pattern (G1) and neurologic pattern (G3) in all the study variables, with or without sick leave. The facet syndrome pattern (G2) follows and intermediate behavior.

These cost differences between G1 and G3 are statistically significant with a clinical correlation. The statistically significant differences were found in:

- Need of sick leave
- Number of complementary tests
- Hospital admissions
- Surgical interventions (facet and epidural blocks, radiofrequency ablation and discectomy)
- Referrals to physical therapy (duration and type of therapy)

CONCLUSIONS II

The sick leave duration was significant in the neurologic pattern (G3).

However in the Facet syndrome pattern (G2), data are more scattered, not reflecting what was expected either because they are not assigned to the right pattern or because they have been encoded or assigned not properly.

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