Relation between areas of the body with musculoskeletal discomfort and job stress in workers.

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- Job stress is well known to be a major factor in the presentation of musculoskeletal discomfort. Although the mechanism generating such discomfort is similar for the body overall, impact upon various areas is differentiated, with some showing more susceptibility than others.

- A number of critical literature reviews have provided evidence that psychosocial workplace factors correlate with occupational musculoskeletal disorders

- A number of studies also suggest that individual psychological factors relate to consultation for and disability from musculoskeletal disorders.

Methods:

- A cross-sectional retrospective study was conducted with 562 industrial sector workers in the Mexican state of Jalisco.
- Socio-demographic and employment data were gathered before applying the Job Content Questionnaire and standardized questionnaires for the analysis of musculoskeletal symptoms.
- Data were analyzed using SPSS 16.

Results:

- There was a greater relationship between stress and musculoskeletal discomfort in women than in men.

Sex	Body zone whit dis confort		
	N	Mean	t
Male	451	1.57	6.975
Female	128	2.89	(p<.001)

Results:

- This gender difference was evident in seven of the nine analyzed body areas.

SEX		Male	Female	Total
Neck	No	335	63	398
	Yes	116	65	181
	Total	451	128	579 29.140***
Dorsal	No	352	67	419
	Yes	99	61	160
	Total	451	128	579 32.943***
Showlders	No	385	89	474
	Yes	66	39	105
	Total	451	128	579 16.839***
Wrist	No	397	93	490
	Yes	54	35	89
	Total	451	128	579 18.107***
Hips	No	411	98	509
	Yes	40	30	70
	Total	451	128	579 19.910***
Knees	No	338	77	415
	Yes	113	51	164
	Total	451	128	579 10.740**
Kles	No	372	92	464
	Yes	79	36	115
	Total	451	128	579 7.049*

- A significant correlation was found to exist between the number of body areas with musculoskeletal discomfort and the level of stress.

Stress	Body zone whith disconfort		
	N	Mean	t
Without	360	1.6528	3.615 (p< .001)
Whith	202	2.2723	

Results

Findings also indicate that subjects experiencing stress present most frequently discomfort in this body areas.

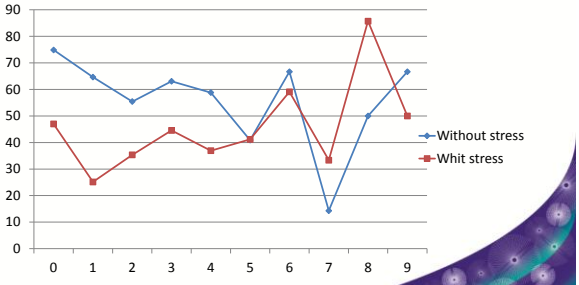
STRESS		Without	Whit	Total	X^2
Neck	No	263	122	385	9.611**
	Yes	97	80	177	
	Total	360	202	562	
Lumbar	No	269	134	403	4.485*
	Yes	91	68	159	
	Total	360	202	562	
Wrist	No	313	161	474	5.138*
	Yes	47	41	88	
	Total	360	202	562	
Hips	No	327	167	494	8.101**
	Yes	33	35	68	
	Total	360	202	562	
Knees	No	268	133	401	4.685*
	Yes	92	69	161	
	Total	360	202	562	

Results

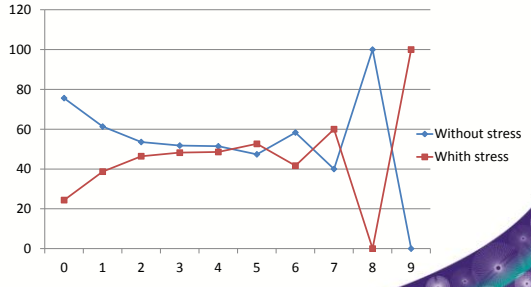
The table shows the frequency with which the different numbers of body sites were reported as being painful in relation with stress.

	Disconfort last 12 mont		Disconfort guside of work		Stopping activities of work		Has gone to the physician		Has disability because the disconfort	
	Frec	%	Frec	%	Frec	%	Frec	%	Frec	%
0	47	25.13	59	24.38	146	31.95	140	32.86	174	34.52
1	35	35.35	41	38.68	27		29	44.62	17	45.95
2	45	44.55	39	46.43	14	56.00	11	32.35	6	42.86
3	24	36.92	27	48.21	2	40.00	8	61.54		
4	21	41.18	17	48.57	5	83.33	6	50.00	2	50.00
5	13	59.09	10	52.63	6	85.71	4	80.00	2	100.00
6	7	33.33	5	41.67	1	100.00	2	66.67		
7	6	85.71	3	60.00	0	0.00	2	50.00	1	100.00
8	3	50.00	0	0.00						
9	1	33.33	1	100.00	1	100.00				
Total	202	35.94	202	35.94		35.94	202	35.94	202	35.94

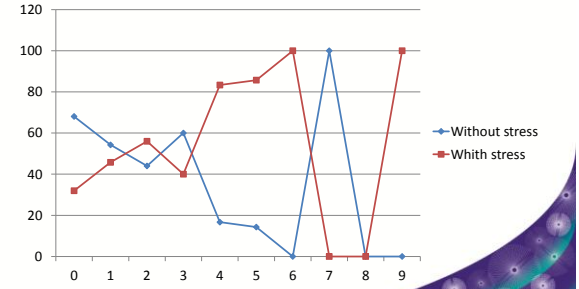
Disconfort last 12 months



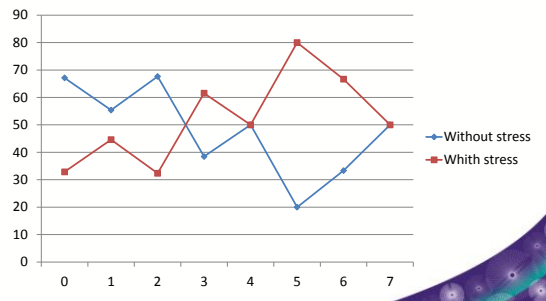
Disconfort outside of work



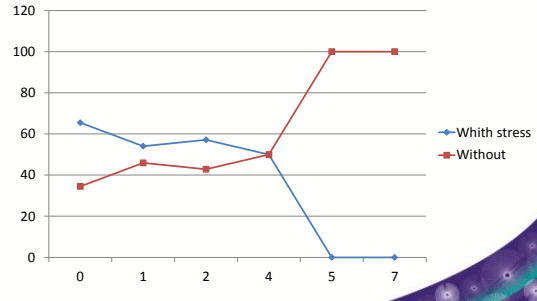
Stopping activities outside of work



Has gone to the physician



Has disability because the disconfort



Discussion

- Results confirm that job stress has a major effect upon musculoskeletal discomfort in certain areas of the body, and that this effect is greater in women than in men.
- These results reinforce the need for implementing stress-reducing measures in the workplace, in order to improve general worker health conditions.

- Our findings should, however, be considered in the context of several limitations of the study design.
- Data collection was based on interviewer-administered questionnaires, and, as in many other studies, no clinical measures of pain or disability were used.

- In addition, the cross-sectional design of the study leaves open questions about the direction of causation for some of the associations demonstrated.
- When these potential sources of bias are taken into account, it seems reasonable to conclude that somatization is a major determinant of multisite regional pain. The exact contribution of stressful physical activities and psychosocial aspects of work is more difficult to gauge but probably smaller (Solidaki, Chatzi, Bitsios, Markatzi, Plana, Castro, et al., 2010).

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