

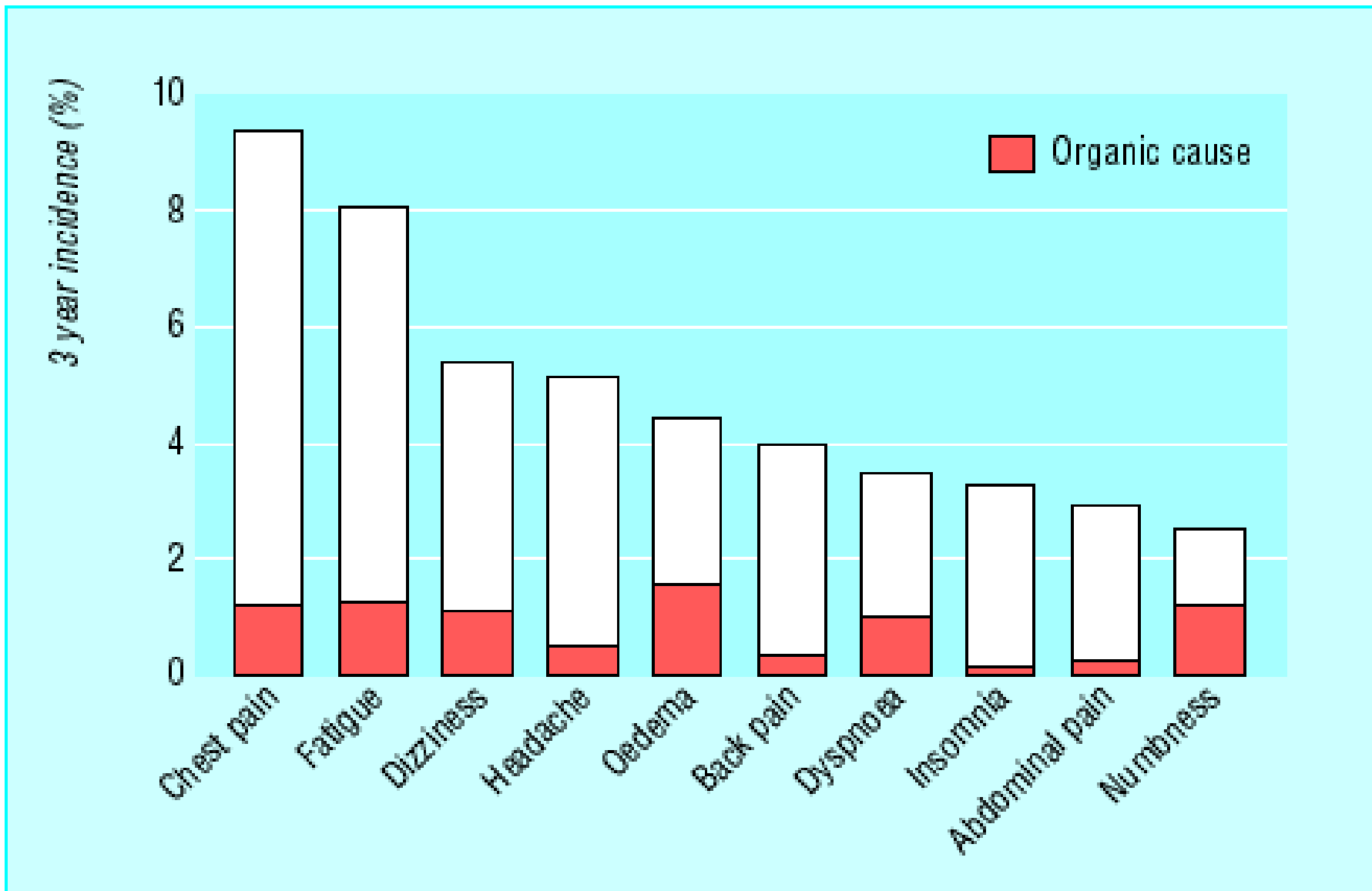
Co-morbid musculoskeletal complaints

- how common are they and what impact do they have?

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Background

- BSc Ergonomics
- 12 years commercial experience
- MSc Occupational Health Psychology
- Research on chronic MSDs
 - increasing interest in pain
 - interest in chronic 'non-specific' symptoms
- Lecturer - University of Derby



(from Mayou & Farmer 2002)

Functional Somatic Syndromes

- Common conditions
- Causes largely unknown
 - 'stress'? psychosomatic?
- Symptoms often occur in combination
- Patterns of illness
- Is the pattern more important than the symptoms?
- Are there patterns in MSDs?

Study Questions

- How common are MSDs in a large workforce sample?
- Do MSDs present singly or in clusters?
 - co-morbid MSDs?
- What impact does co-morbidity have on health?
 - Health Measures (SF-36)
 - Sickness Absence

Some caveats...

- Secondary analysis of data
 - questions not perfect for this analysis
 - co-morbidity?
 - frequency v severity
- Crude analysis
 - simple odds ratios v relative risk
 - basic but robust tests
 - doesn't consider specific symptom combinations
- Questions v answers?

SF-36 Health Survey

- One of the most widely used health or quality of life surveys
- Eight Scales
 - Physical Function; Role Physical; Bodily Pain; General Health; Vitality; Social Function; Role Emotional; Mental Health
- Allows norm-based scoring (UK data)
- T scores - mean of 50 SD of 10

Clinically Significant Change

- Statistically significant differences can be meaningless in reality
- Big issue with large sample sizes
- Effect sizes can provide a good indication
- Reliable Change Index a robust measure
 - used successfully with SF-36

The Sample

- N ~ 3000
- 50% response
- 70% female
- Multi-site organisation
- Wide range of functions
- 'Normal' health profile
- 'Unexceptional'

PF	50.6 (9.1)
RP	50.4 (9.8)
BP	50.7 (10.1)
GH	50.2 (9.5)
Vit	48.3 (10.7)
SF	48.7 (10.6)
RE	50.3 (10.3)
MH	50.0 (10.2)

Headline Figures

- Symptoms in last 4 weeks
- Back pain - 46%
- Upper limb pain - 50%
- Lower limb pain - 43%
- Headache - 57%
- Abdominal Pain - 31%

Pain Combinations

Symptom(s)	%	No. of Sites	%
No pain	29.7	No Pain	29.7
Back pain only	8.5	1 site	24.4
UL pain only	9.1	2 sites	22.8
LL pain only	6.9	3 sites	23.1
BP & ULP only	9.9		
BP & LLP only	4.9		
ULP & LLP only	8.0		
BP & ULP & LLP	23.1		

Impact on Sickness Absence

	None	1 site	2 sites	3 sites
Risk (odds ratio)	-	1.4 (1.0-1.9)	1.4 (1.1-2.0)	2.3 (1.7-3.0)
Mean days	0.41 (1.97)	0.56 (2.23)	0.76 (3.10)	1.13 (3.64)
Days/case	3.65 (4.79)	3.71 (4.68)	5.00 (6.44)	5.13 (6.29)

- Little difference between 1 and 2 sites
- Meaningful differences between 0 and 3 sites
- No indication of nature of absence

Impact on Health

		None	1 site	2 sites	3 sites
PF	<i>50.6</i>	53.8	52.3**	49.2**	45.7*
RP	<i>50.4</i>	54.1	52.3**	48.9*	45.0
BP	<i>50.7</i>	57.2	52.0**	48.2	43.4**
GH	<i>50.2</i>	54.5	51.3	48.3	45.2
Vit	<i>48.3</i>	53.1	49.9	47.0*	42.0**
SF	<i>48.7</i>	52.7	50.3*	47.2**	43.4
RE	<i>50.3</i>	53.0	51.3	49.6	46.3*
MH	<i>50.0</i>	52.4	50.0	47.7	44.9

Risk of Clinically Significant Deviation

	1 site	2 sites	3 sites
Physical Function	2.0 (1.1-3.5)	5.9 (3.6-9.6)	12.0 (7.4-19.3)
Role Physical	2.1 (1.3-3.3)	5.6 (3.7-8.5)	11.9 (8.0-17.6)
Bodily Pain	5.8 (3.0-11.2)	11.6 (6.1-22.1)	30.0 (16.1-56.0)
General Health	2.6 (1.6-4.5)	6.0 (3.7-9.9)	9.2 (5.7-14.9)
Vitality	2.4 (1.7-3.4)	3.3 (2.3-4.8)	7.4 (5.3-10.4)
Social Function	2.0 (1.4-2.9)	3.2 (2.3-4.6)	6.1 (4.4-8.5)
Role Emotional	1.6 (1.2-2.3)	2.6 (1.9-3.6)	4.0 (2.9-5.5)
Mental Health	1.1 (0.8-1.6)	2.0 (1.4-2.8)	3.5 (2.5-4.8)

What does this mean

- Musculoskeletal pain is common
- It doesn't necessarily have a big impact on health
- Single site symptoms surprisingly rare
- Increasing co-morbidity associated with increased impact
- Those with pain in all three areas of greatest concern
 - pain problem rather than MSD?

Implications for Practitioners

- Full history is vital
- Knock-on effects of interventions must be considered
- Co-morbidity may require a multi-disciplinary approach
- Going beyond an initial instruction?
- Competence
 - beyond biomechanics...
 - tool set?

Implications for Researchers

- What variables are being measured?
 - and what is being missed...?!?
- Do we need to define 'norm' or 'baseline'?
- How do we account for co-morbidity in analyses?
- Are our models adequate?

Future Directions

- Studies targeted at co-morbidity
- Impact of specific patterns of symptom
- Implications of Mental Health scores
- Development of practical models and tools
- Education and awareness
 - move away from single site explanations
- Better links with pain research
 - 2 way interaction...

Conclusions

- Aches and pains are a normal part of life
- Single site pain is not the norm
- We need to consider patterns of symptoms
- Co-morbidity appears to be a serious issue

- We need to start with pain...

Thanks for listening

Questions?

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