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# **The influence of disability on suicidal behaviour**

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# What is the relationship between disability and mortality?

- Implicit in HLE research is the assumption that over time a health problem or disability gets worse and eventually causes death or at least contributes to death.
- In the UK there have been numerous cases where people whose daily activities were about to become so limited that they asked for a judicial review concerning a loved one assisting them in the act of suicide.

# Research questions

- To establish the influence of disability, its overall severity, and specific types of disability on the likelihood of attempting suicide.
- To investigate whether loneliness mediated the relationship between disability and suicidal behaviour.
- To examine whether dependence moderated the relationship between disability and suicidal behaviour.

# Data source

- Analysis carried out from the 2007 survey of psychiatric morbidity among adults in England.
- Fieldwork was carried out by interviewers from the National Centre for Social Research.
- The fieldwork took place over the course of one year - 2007.

# Summary of survey design

- Sample drawn from PAF in England,
- stratified by region and socioeconomic factors,
- 519 postcode sectors were selected with pps,
- 28 addresses randomly chosen in each sector,
- yielding a sample of 14,532 delivery points,
- produced 12,694 eligible addresses.
- After selecting one person per household
- interviews carried out with 7,461 respondents
- a response rate of 57%

# Measurement of disability: difficulty in...

- Personal care (e.g. dressing, bathing, feeding oneself);
- Getting out and about or using transport;
- Medical care (e.g. taking medicines or pills, having injections or changes of dressing);
- Household activities (e.g. preparing meals, shopping, laundry and housework);
- Practical activities (e.g. gardening, decorating, or doing household repairs);
- Paperwork (e.g. writing letters, sending cards, or filling in forms);
- Managing money (budgeting; paying bills).

# Measurement of suicidal behaviour

- Have you ever made an attempt to take your life, by taking an overdose or tablets or in some other way?”
- A positive response was followed up with a question on when this last occurred:
  - in the last week,
  - last year,
  - longer ago.
- Examined suicide attempts in past 12 months.

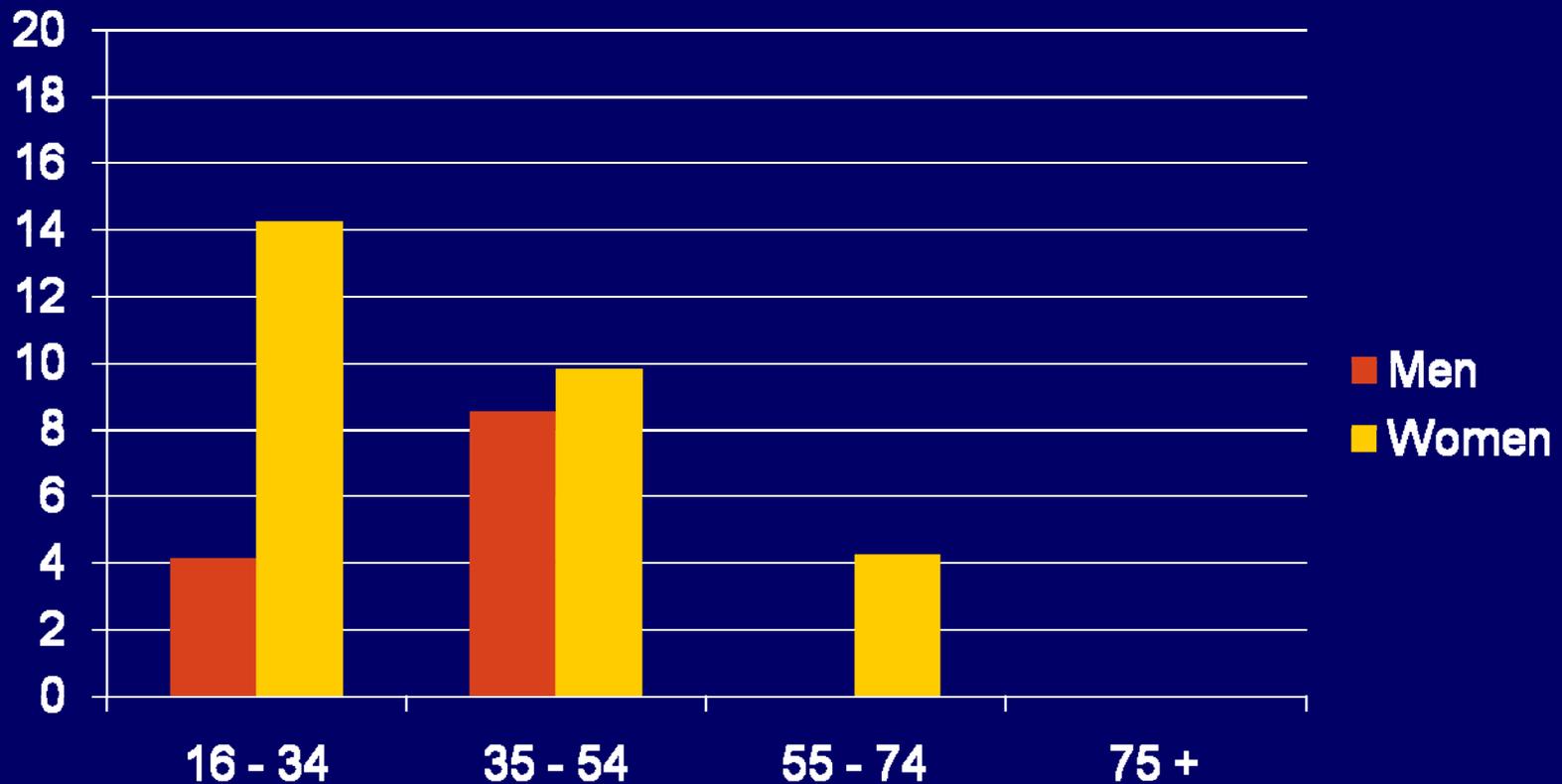
# Measurement of loneliness

- Survey respondents were asked the 8 questions from the Social Functioning Questionnaire (Tyrer et al., 2005).
- Respondents were presented with the statement “I feel lonely and isolated from other people” and asked to rate their feelings in the past 2 weeks: very much, sometimes, not often or not at all.
- A dichotomous variable was created with *very much* or *sometimes* regarded as indicative of significant loneliness.

# Prevalence of suicide attempts in past 12 months

- Overall rate: 6.7 per 1000 population.
- Women were twice as likely as men to have reported an attempted suicide in the past twelve months: 8.7 cf 4.4 per 1000 population.
- The two highest rates were: women in the 16-34 group (14.2/1000) followed by the 35-54 age group (9.8/1000).
- There were no cases reported by those aged 75 or older by either men or women.

# Adults who attempted suicide in past 12 months by age & sex (rate/1000)



# Socio-demographic and socioeconomic risk factors for suicide attempts in the past year: adjusted odds ratios

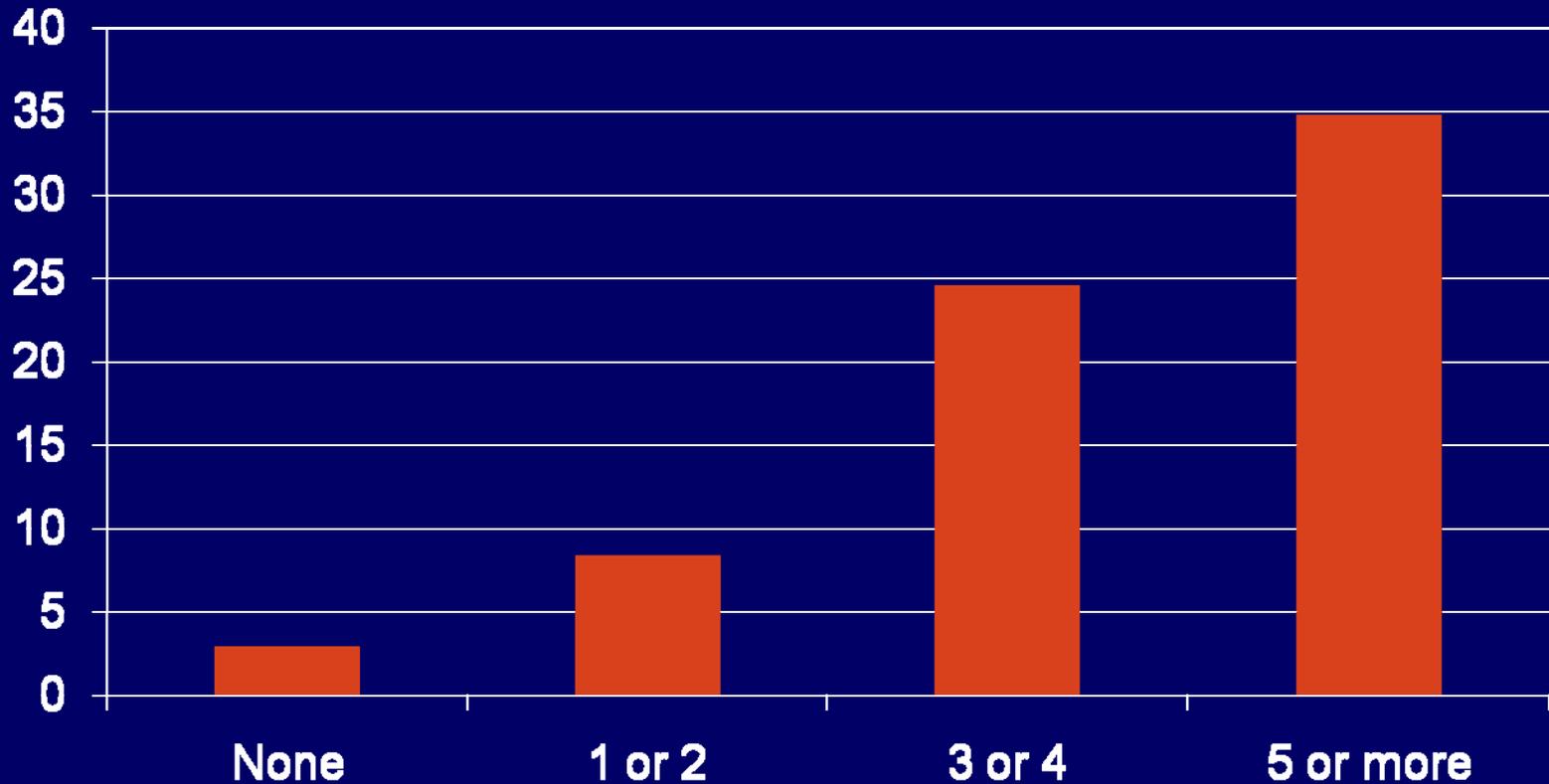
- Unemployed
  - Economically inactive
  - Physical ill-health
  - Widowed/Divorced/  
Separated
  - Single
  - Indebtedness
- OR=5.44,  $p=0.002$
  - OR=4.82,  $p<0.001$
  - OR=4.13,  $p=0.008$
  - OR=2.66,  $p=0.017$
  - OR=2.59,  $p=0.020$
  - OR=2.52,  $p=0.007$



# Social factors which increase the risk of suicidal behaviour

- The end of a marital or other relationship.
- Personal or family ill health.
- Death of a family member, relative or friend.
- Violence at work or at home.
- Periods of homelessness.
- Loss of something highly valued.
- Child victimisation experiences.

# Adults who attempted suicide in past 12 months by number of ADL limitations (rate/1000)



# Associations between being number of ADL difficulties and suicide attempts in past year

- ORs adjusted for socio-demographic factors and physical ill-health.
- None 1.00 .....
- 1 or 2 2.31 (1.02, 5.24)  $p=0.045$
- 3 or 4 8.10 (3.41, 19.22)  $p<0.001$
- 5 or more 7.89 (3.13, 19.87)  $p<0.001$
- Any ADL Difficulty 3.94 (3.00, 7.77)  $p<0.001$

# Relationship between disability and suicidal behaviour

- It is disability rather than physical ill-health which is a risk factor for suicide.
- A US example: 1986-1994 National Health Interview Survey linked to the 1986-1997 National Death Index (Kaplan, 2007).
- Chronic conditions alone were not predictive of suicide completion when functional limitation was added to the model implying that it is disability rather than disease or impairment which is the main correlate of suicide attempts.

# Adults who attempted suicide in past 12 months by number of ADL limitations and degree of dependence (rate/1000)

	1-2	3-4	5+	All
ADL difficulty no help needed	10.4	7.8	0	9.5
ADL difficulty help needed not received	0	0	125	28.6
ADL difficulty help needed and received	6.4	27.6	38.8	18.1



## Associations between being type of ADL difficulty and suicide attempts in past year

- Personal care 0.28 (0.09, 0.85)  $p=0.024$
- Using transport 2.14 (0.82, 5.65)  $p=0.125$
- Medical care 1.86 (0.68, 5.09)  $p=0.230$
- Household 1.02 (0.35, 2.92)  $p=0.978$
- Practical activities 1.02 (0.39, 2.64)  $p=0.971$
- Paperwork 2.94 (1.43, 6.06)  $p=0.003$
- Managing money 2.95 (1.47, 5.91)  $p=0.002$
- ORs adjusted by socio-demographics and physical ill-health and other ADL limitations

# Relationship between disability and suicidal behaviour

- Cognitive tasks such as managing money and dealing with paperwork were the sole IADL items with an independent association with suicide attempts.
- This suggests an increased tendency for people with limitations in intellectual functioning to attempt suicide although difficulties in organisational skills are not necessarily indicative of a cognitive deficit.

# Intellectual functioning disability and suicide attempts

- People with borderline intellectual functioning were found to be more likely to report suicide attempts than the rest of the sample with normal intelligence (Hassiotis et al., 2010).
- Impairment of executive functioning beyond that typically found in major depression have been reported in depressed patients with prior suicide attempts (Keilp et al., 2001).

# Effect of loneliness on the relationship between disability and suicide attempts: Results of the mediation analysis (Sobel method)

X= Independent variable – any disability.

Y= Dependent variable – suicide attempt

M= Mediating variable - loneliness

The effect of disability on suicide controlling for loneliness  $B(YX.M) t=8.29, p<0.0001$

The indirect effect is also significant.

# Adults who attempted suicide in past 12 months by number of ADL limitations and degree of loneliness (rate/1000)

	0	1-2	3-4	5+	All
Felt lonely and isolated from other people not often or not at all.	0.7	4.4	2.9	11.6	1.9
Felt lonely and isolated from other people sometimes or very much	14.3	14.7	66.7	65.5	25.4



# Summary

- Disability rather than the physical ill health is a key influence on suicidal behaviour.
- Dependence on others does not moderate the relationship but is confounded with severity.
- Loneliness has a direct and indirect effect on the relationship between disability and suicidal behaviour
- For clinical management it is important to consider ability to carry out financial and organisational tasks as well as personal care.

