Self-report in occupational health research

- Very common
- Relatively cheap
- Sometimes the only way
- Measure of perception of health
- Vulnerable to distortion due to
  - Social desirability
  - Dissimulation
  - Recall problems
  - Language/interpretation barriers
  - Etc.

Self-reported work-related illness

Requires two steps:
- Self-report of illness
- Attribution of illness to work or work situation; causal attribution or causal inference

Aim of review

Extend the knowledge on the reliability and validity of self-reported work-related illness by
1] exploring the use of various self-report measures of work-related illness in occupational health studies, and
2] evaluating the evidence on the reliability and validity of the self-report measures of work-related illness.

First research question

Which methods or measures are used for the assessment of work-related illness based on self-reported illness and self attribution to work-related factors?
Measures and methods for self-reporting work-related illness

- 768 combinations of self-report measure and health status
- 75 interview measures vs. 693 self-administered questionnaires
- 20% of measures were on health as well as exposure

Second research question
What is the evidence on the reliability and validity of these methods or measures to assess self-reported illness and its attribution to work-related factors?

Two categories of studies

1. Questionnaire Testing:
38 studies that test the reliability and/or validity of a self-report questionnaire in a work-related situation

2. Clinical Examination:
33 studies that compare self-reported health with an expert opinion as “golden standard” (i.e., physician diagnosis based on clinical examination and/or clinical testing)
**QT Results (1)**
- 38 studies on 37 questionnaires
- Work aimed: yes 14; no 19; unclear 4;
- Most tested types of reliability:
  - test-retest reliability (23x, moderate to high)
  - internal consistency (17x, moderate to mainly high).
- Most tested types of tested validity
  - concurrent validity (10x, moderate to high)
  - construct validity, including convergent and divergent validity and CFA (9x, low to high)

**QT Results (2)**

<table>
<thead>
<tr>
<th>Reliability Type</th>
<th>Studies</th>
<th>QQ</th>
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<tbody>
<tr>
<td>Test-retest</td>
<td>5</td>
<td>C</td>
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<tr>
<td>Internal consistency</td>
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<td>Responsivity</td>
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<td>Reproducibility</td>
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**QT Results (3)**

- Most studied: Nordic Musculoskeletal Questionnaire (NMQ):
  - reliability/validity mainly high
- Reliable and valid alternatives:
  - Curtin Back Screening Questionnaire (CBSQ)
  - Upper Extremities Questionnaire
- QQ aimed at psychosocial complaints and disorders:
  - Reliability/validity variable, mainly moderate to high
- Several QQ aimed at psychosocial complaints designed for use in work situations

**Clinical examination (1)**

Extracted from each study:
- Self-report measure studied
- Health status measured
- Aimed at work or work situation
- Population (type, number)
- Outcome measures: % agreement, sensitivity, specificity, PPV, NPV, ratio self-diagnosis/physician diagnosis
- Assessment of study quality against predefined criteria
  - VH = very high; H = high; M = moderate; L = low

**Clinical examination (2)**

- Quality assessment
- Number of studies
- NMQ, SHN, PPQ, Lask, DQ, EMM, CAF, MROC
CE Results (1)

- Self-report QQ that focus on symptoms*: high sensitivity, low to moderate specificity
- Self-report QQ that combine a number of relevant symptoms** to one health condition score: lower sensitivity, higher specificity
- Self-report QQ that ask workers to self-diagnose a health problem in one single question***: lower sensitivity, higher specificity
- Validity of self-report depends on its purpose, health status, population, exposure etc.

CE Results (2)

- On an individual level: big differences between self-reports and clinical examination (physician’s diagnosis)
- On population level: prevalence based on aggregated scores of self-reports might be close to prevalence measured by physician’s diagnosis
- Substantial numbers of false positives and false negatives when using self-reported illness or self-reported work-relatedness measures
- Self-reported workrelatedness hardly studied

Main findings (1)

- Frequent use of self-report to assess self-reported work-related illness
- Many self-report measures are not aimed at work or at the work situation
- For epidemiological research: extensive choice in valid and reliable self-report measures on musculoskeletal disorders and mental health problems
- Very few information on validity of self-assessed work-relatedness of a health condition.

Main findings (2)

- No final judgement on the validity of self-reported work-related illness in general
- Validity of measuring work-related illness by self-reports depends on the purpose, the context and the health condition measured
- Low to moderate agreement on an individual level between medical examination and self-report
- Better agreement on group or population level; especially when using self-diagnose questionnaires and questionnaires that use a specific combination score of health symptoms.

Recommendations

- More research needed on workers’ self-assessment of work-relatedness of health problems
- Development and testing of a specific measure of self-reported work-relatedness of ill health
- Develop a professional practice guideline to assess the work-relatedness of a health complaint or disease

Reliable? Valid?

"It is a work related injury. I walked into my boss’ office and took a flyer on his golf ball."
Questions?