Effects of maternal morbidity on women’s well-being and functioning: a systematic review

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Aim and objective

Aim:
To provide recent epidemiological evidence on how maternal morbidity affects health-related functioning (HrF)

Objective:
To document the levels and patterns of health-related functioning as a consequence of direct obstetric complications
What is health-related functioning (HrF)?

- The International Classification of Functioning, Disability and Health (ICF) provides a framework of functioning and disability in the context of health.
- HrF refers to all body functions, activities and participation.
- The concept of HrF is an inverse of disability.
What is health-related functioning (HrF)?

E.g. WHO Disability Assessment Schedule (WHODAS) 2.0

- A general measure of health-related functioning and disability in daily practice in accordance with the ICF.

- Aimed to be applicable to any health conditions and across cultures in adult populations
  - **Cognition** (understanding and communication);
  - **Mobility** (moving & getting around);
  - **Self-care** (hygiene, dressing, eating & staying alone);
  - **Getting along** (interacting with other people);
  - **Life activities** (domestic responsibilities, leisure, work & school);
  - **Participation in society** (joining in community activities).
Methods (1)

- Protocol adapted from the WHO Systematic Review of Maternal Morbidity and Mortality

- 7 electronic databases were searched (MEDLINE, Embase, Popline, CINAHL Plus, LILACS, African Index Medicus (AIM) and the West Pacific Index Medicus (WPIM))

- The review has been registered in PROSPERO

- Screened by EPPI Reviewer

- A pilot test of 100 papers by three reviewers to ensure the quality of review
Methods (2)

Â Type of participants
Women who experienced maternal morbidity during pregnancy, childbirth or within one year after delivery or spontaneous abortion

Â Type of outcomes and exposure
Exposure = Maternal morbidity
Outcome = Disruption or deterioration of health-related functioning as a consequence of maternal morbidity

Â Search strategy
(General maternal morbidity OR direct obstetric complication OR indirect obstetric complication)
AND Health functioning
AND Type of studies
Results

<table>
<thead>
<tr>
<th>Database</th>
<th>Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDLINE</td>
<td>6624</td>
</tr>
<tr>
<td>Embase</td>
<td>10129</td>
</tr>
<tr>
<td>CINAHL</td>
<td>5475</td>
</tr>
<tr>
<td>Popline</td>
<td>1218</td>
</tr>
<tr>
<td>LILACS</td>
<td>669</td>
</tr>
<tr>
<td>WPIM</td>
<td>59</td>
</tr>
<tr>
<td>AIM</td>
<td>3</td>
</tr>
<tr>
<td>Hand searching</td>
<td>1</td>
</tr>
</tbody>
</table>

17704 Non-Duplicate Citations Screened

Inclusion/Exclusion Criteria Applied

17213 Articles Excluded After Title/Abstract Screen

491 Articles Retrieved

116 full-text not available

Inclusion/Exclusion Criteria Applied

193 Excluded After Full Text Screen

96 articles

86 articles

182 Included

NON-Obstetric complications

Obstetric complications
Distribution of studies by country income-group

- High income: 71%
- Middle-income: 11%
- Low-income: 18%

N=96 studies
Distribution of studies by diagnosis

- Perineal laceration
- Urinary incontinence
- Hyperemesis gravidarum
- Gestational Diabetes Mellitus
- Faecal incontinence
- Obstetric fistula
- HIV infection
- Postpartum haemorrhage
- Preeclampsia/eclampsia
- Pregnancy-induced hypertension
- Gestational Trophoblastic Disease
- Anaemia
- Dystocia
- Pregnancy-related infection
- Hydatidiform mole
- Prolapse
- Spontaneous abortion
- Overactive bladder
- Not specified

N=106
Note: Some studies assessed several diagnoses
Distribution of studies by diagnosis

Perineal laceration
Urinary incontinence
Hyperemesis gravidarum
Gestational Diabetes Mellitus
Faecal incontinence
Obstetric fistula
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Pregnancy-related infection
Hydatidiform mole
Prolapse
Spontaneous abortion
Overactive bladder
Not specified

N=106
Note: Some studies assessed several diagnoses
Commonly used instruments measuring HrF

- Short Form-36
- Short Form-12
- WHOQOL-BREF
- Female Sexual Function Index (FSFI)
- Sexual History Form-12
- Own Question
- International Consultation on Incontinence modular Questionnaire
- Fecal incontinence quality of life scale
- Pelvic floor impact questionnaire short form 7
- Incontinence Impact Questionnaire (IIQ)
- Manchester Health Questionnaire
- Pelvic Organ Prolapse/Urinary incontinence... Sexual Function-12

Note: Some studies used several instruments
**Example: Hoedjes et al. 2011**

- Prospective cohort study in the Netherland
- 174 postpartum women who experienced mild or severe preeclampsia
- Quality of life was measured at 6 and 12 week postpartum using Short Form-36

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean at 6 wks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild</td>
</tr>
<tr>
<td><strong>Physical component</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td></td>
</tr>
<tr>
<td>Mental health component</td>
<td>51.3</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
</tr>
<tr>
<td>General health</td>
<td>76.8</td>
</tr>
<tr>
<td><strong>Mobility</strong></td>
<td></td>
</tr>
<tr>
<td>Bodily pain</td>
<td>77.1</td>
</tr>
<tr>
<td>Physical functioning</td>
<td>86.4</td>
</tr>
<tr>
<td><strong>Getting along</strong></td>
<td></td>
</tr>
<tr>
<td>Mental health</td>
<td>81.9</td>
</tr>
<tr>
<td><strong>Vitality</strong></td>
<td></td>
</tr>
<tr>
<td>Role limitation due to physical problem(s)</td>
<td>56.3</td>
</tr>
<tr>
<td>Life activities</td>
<td></td>
</tr>
<tr>
<td>Role limitation due to emotional problem(s)</td>
<td>79.8</td>
</tr>
<tr>
<td>Participation</td>
<td></td>
</tr>
<tr>
<td>Social functioning</td>
<td>78</td>
</tr>
</tbody>
</table>
Limitations

- Challenges in operationalizing the concept of HrF
- Overlap between ICF and International Classification of Diseases (ICD)
- Outcome measures vary across studies
- A larger number of titles identified
Summary

• The consequences of complications are frequent.

• Health-related functioning researched in an unsystematic manner.
  A larger number of studies focused on specific conditions e.g. Perineal laceration, urinary & faecal incontinence.

• Existing tools prepared for general population have been used frequently (e.g. SF-36) – Often no comparison group.

• However, some important functioning for the pregnant or postpartum circumstances, e.g. mother-infant interactions and ability to breastfeed, are often not addressed.

• New tools should be developed or existing tools should have specific modules adapted to the pregnancy and postpartum circumstances.
Thank you!
# WHO Disability Assessment Schedule (WHODAS) 2.0

<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cognition</strong></td>
<td>Learning a new task, for example, learning how to get to a new place?</td>
</tr>
<tr>
<td></td>
<td>Concentrating on doing something for ten minutes?</td>
</tr>
<tr>
<td><strong>Mobility</strong></td>
<td>Standing for long periods such as 30 minutes?</td>
</tr>
<tr>
<td></td>
<td>Walking a long distance such as a kilometer?</td>
</tr>
<tr>
<td><strong>Self-care</strong></td>
<td>Washing whole body?</td>
</tr>
<tr>
<td></td>
<td>Getting dressed?</td>
</tr>
<tr>
<td><strong>Getting along</strong></td>
<td>Dealing with people you do not know?</td>
</tr>
<tr>
<td></td>
<td>Maintaining a friendship?</td>
</tr>
<tr>
<td><strong>Life activities</strong></td>
<td>Taking care of your household responsibilities?</td>
</tr>
<tr>
<td></td>
<td>Your day-to-day work/school?</td>
</tr>
<tr>
<td><strong>Participation</strong></td>
<td>How much of a problem did you have in joining in community activities in the same way as anyone else can?</td>
</tr>
<tr>
<td></td>
<td>How much have you been emotionally affected by your health problem?</td>
</tr>
</tbody>
</table>
Health-related functioning vs Health-related quality of life

Health-related quality of life

- “Optimum levels of mental, physical role and social functioning, including relationships and perceptions of health, fitness, life satisfaction and wellbeing” (Bowling 2001)
- Also reflects satisfaction, expectations and aspirations

- Can include subjective well-being: individual perception on life satisfaction, affects (feeling or emotional states, e.g. happiness), and eudaemonia (a sense of meaning and purpose in life) (OECD 2013)
Exclusion Criteria

• Studies without relevant quantitative data

• Case reports, case series or case-control studies

• Studies with less than 30 eligible women with maternal morbidity.

• Reports published before 2005

• Induced abortion or caesarean section as exposure

• Clinically diagnosed outcomes and outcomes assessed by a screening tool (e.g. Edinburgh Postnatal Depression Scale (EPDS) or the Kessler Psychological Distress Scale (K-10))