What helps or hinders midwives to implement physical activity guidelines for obese pregnant women?

Dr Catherine McParlin
Senior Research Midwife/
Research Associate
Guidelines

• **CEMACE/RCOG 2010:** ‘Women should be made aware of the importance of healthy eating and appropriate exercise during pregnancy……

• **NICE 2010:** Role of all Health Professionals- advise and support women.

• Recommend 30 mins moderate activity per day

• Importance of not being sedentary
Change in MVPA according to activity at baseline

Minutes of MVPA

- Active Baseline
- Inactive Baseline

Baseline | 28 weeks | 36 weeks
---|---|---
35 | 30 | 25
Barriers to increasing PA

- Inappropriate advice, lacks clarity and consistency
- Low motivation
- Embarrassed
- Low self efficacy
- Misconceptions & myths
- Discomfort
- Fatigue
- Nausea
- Concerns about safety
- Lack of social support, family, friends, health care professionals
- Unaware of benefits of being active and risks of inactivity

- Lack of social support, family, friends, health care professionals
Views and experiences

- Counselling, communication skills
- Time & resources
- Harm relationship
- Uncertain about effectiveness
- Training

Midwives
Aims

To investigate the barriers and facilitators to physical activity guideline implementation for midwives when advising obese pregnant women.
Theoretical Domains Framework

Theoretical, psychological framework which can be used to study implementation of guidelines and help to develop theory based interventions.

- Knowledge
- Beliefs about consequences
- Memory, attention, decision process
- Emotion

- Skills
- Beliefs about capabilities
- Environment, context, resources
- Behaviour regulation

- Social professional role
- Motivation and goals
- Social influences
- Nature of the behaviour

Michie et al 2005
Method

- Cross Sectional
- Quantitative
- Self Completion
- Anonymous
- All midwives working at RVI, S. Tyneside, North of Tyne PCT

QUESTION: Do midwives discuss PA with obese pregnant women and advise them accordingly?
The questionnaire

• Evidence from systematic reviews and guidelines to inform topic area.
• Existing qualitative research literature to design questions
• 40 questions (3-5 relating to each domain)
• PLUS direct question about the behaviour
• 5 point Likert scale
• Demographic/free text
## Results

### Participant characteristics

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Newcastle</th>
<th>South Tyneside</th>
<th>North of Tyne</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number issued</strong></td>
<td>365</td>
<td>258</td>
<td>77</td>
<td>30</td>
</tr>
<tr>
<td><strong>Number returned</strong></td>
<td>192 (52.6%)</td>
<td>111 (43.0%)</td>
<td>51 (66.2%)</td>
<td>30 (100%)</td>
</tr>
<tr>
<td><strong>Years Qualified</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;2</td>
<td>17 (8.8%)</td>
<td>11 (9.9%)</td>
<td>6 (11.8%)</td>
<td>0</td>
</tr>
<tr>
<td>3-5</td>
<td>22 (11.4%)</td>
<td>15 (13.5%)</td>
<td>7 (13.7%)</td>
<td>0</td>
</tr>
<tr>
<td>5-10</td>
<td>32 (16.7%)</td>
<td>19 (17.1%)</td>
<td>10 (19.6%)</td>
<td>3 (10.0%)</td>
</tr>
<tr>
<td>&gt;10</td>
<td>121 (63.0%)</td>
<td>66 (59.4%)</td>
<td>28 (54.9%)</td>
<td>27 (90.0%)</td>
</tr>
</tbody>
</table>
Domain scores, all respondents

<table>
<thead>
<tr>
<th>Domain</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>3.99</td>
</tr>
<tr>
<td>Skills</td>
<td>2.69</td>
</tr>
<tr>
<td>Social Prof. Role</td>
<td>3.98</td>
</tr>
<tr>
<td>Beliefs- Capabilities</td>
<td>3.03</td>
</tr>
<tr>
<td>Beliefs- Consequences</td>
<td>3.87</td>
</tr>
<tr>
<td>Motivation &amp; Goals</td>
<td>3.56</td>
</tr>
<tr>
<td>Memory</td>
<td>3.35</td>
</tr>
<tr>
<td>Environment, Resources</td>
<td>2.89</td>
</tr>
<tr>
<td>Social Influence</td>
<td>3.15</td>
</tr>
<tr>
<td>Emotion</td>
<td>3.2</td>
</tr>
<tr>
<td>Behaviour Regulation</td>
<td>2.88</td>
</tr>
<tr>
<td>The behaviour</td>
<td>3.26</td>
</tr>
</tbody>
</table>
Domain scores, all respondents

Knowledge: 3.99
Skills: 2.69
Beliefs: 3.03
Consequences: 3.87
Motivation & Goals: 3.56
Memory: 3.35
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Social Influence: 3.2
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The behaviour: 3.26
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- Social Influence: 2.89
- Emotion: 3.15
- Behaviour Regulation: 3.2
- The behaviour: 3.26
Facilitators and Barriers

Midwives perceive/believe that:

- Part of role
- They have necessary experience
- Theoretical/practical understanding
- Behaviour expected of them and peers
- Optimistic that their advice will have appropriate outcomes
- Do not have ability, proficiency, competence
- Low self belief, esteem and confidence about effectiveness
- Don’t plan or prioritise the discussion
- Not a specific goal
Influence of demographic factors

- No difference between 2 hospital trusts.
- North of Tyne community midwives scored higher on several domains and the Behaviour
- Staff caring for ante-natal women score higher for all domains except knowledge and social professional role
- Midwives working in different areas face different barriers and facilitators
Regression model

‘I discuss physical activity with obese pregnant women and advise them in accordance with national guidelines’

<table>
<thead>
<tr>
<th>never</th>
<th>occasionally</th>
<th>sometimes</th>
<th>usually</th>
<th>always</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</table>

![Bar chart showing the original score for Behaviour, with bars for each response level (1-5) and total number of midwives for each level.](image)
Increase skills domain mean by 1

‘I discuss physical activity with obese pregnant women and advise them in accordance with national guidelines’

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Score for Behaviour if skills = 2.7

Score for Behaviour if skills = 3.7
Increase memory/attention/decision

‘I discuss physical activity with obese pregnant women and advise them in accordance with national guidelines’

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Score for Behaviour if memory = 3.3

Score for Behaviour if memory = 4.3
Increase both

‘I discuss physical activity with obese pregnant women and advise them in accordance with national guidelines’

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<td>5</td>
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Score for Behaviour if no change

Score for Behaviour if increase both
# Behaviour change techniques

<table>
<thead>
<tr>
<th>Domain</th>
<th>Behaviour change techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skills</strong></td>
<td>Goal/target&lt;br&gt;Monitoring&lt;br&gt;Rewards, incentives&lt;br&gt;Graded tasks&lt;br&gt;Problem solving, decision making, goal setting&lt;br&gt;Rehearsal of skills&lt;br&gt;Modelling, demonstration of behaviour&lt;br&gt;Homework&lt;br&gt;Perform behaviour in different settings</td>
</tr>
<tr>
<td><strong>Memory, attention, decision process</strong></td>
<td>Self monitoring&lt;br&gt;Planning&lt;br&gt;Implementation&lt;br&gt;Prompts, triggers, cues</td>
</tr>
</tbody>
</table>
Midwives comments

• Coded using TDF - Facilitators and barriers for each domain-score
• Social professional role high on both
• Environment/context/resource low on both
• Discrepancy with knowledge and skills

Should be given to all women, plus healthy eating. It's no good going for a walk or a swim and then eating a Greggs pasty!

It is an integral part of my role as a practitioner to give health related advice

Because of the time limitations other aspects of care do take priority

As it is a worsening problem, it should be given greater attention, time and resources.
Key findings

- The midwives know what they should be advising and believe it is part of their role but have problems with skills, capabilities and resources.
- Skills and memory/attention/decision domains had a significant influence on the ‘Behaviour’
- Interventions aimed at increasing implementation of the guidelines need to focus on the constructs within these domains to achieve behaviour change.
Implications for clinical practice

- **Midwives**: training, resources, consider routine enquiry, prioritise discussion
- Responsibility of all health care professionals
- Does it improve health outcomes in short and long term for mother and baby?
Supervisors/Co-Authors

Dr Vera Araujo-Soares
Dr Ruth Bell
Dr Colin Muirhead
Prof Steve Robson

(McParlin, C. et al, Midwifery, [2016]
http://dx.dor.org/10.1016/j.midw.2016.09.015)