The MAMMI Study UI Strand
Maternal health and Maternal Morbidity in Ireland

Stress Urinary Incontinence (SUI) before and during early pregnancy
the help and advice-seeking behaviour of primiparous women

Optimising Childbirth Across Europe
9th-10th April 2014, Brussels

Déirdre Daly
Lecturer in Midwifery/HRB Research Fellow, Trinity College Dublin

Supervisors:
Professor Cecily Begley, TCD and Professor Mike Clarke, QUB (Adjunct Professor TCD)
The MAMMI Study UI Strand

Sincerest thanks to

— **The women** (all women including those who are not taking part but who read the information)

— My colleagues **Margaret Carroll, Deirdre O’Malley, Francesca Wuytack, Sunita Panda, Louise Rafferty**

— **Rebekah Maguire and Sophie Clare** who worked with us on the MAMMI study in summer 2012

— The **Health Research Board (HRB)** for funding the MAMMI study (UI) strand

— **Professor Stephanie Brown**, Murdoch Children’s Research Institute, Australia for granting permission to use and modify surveys
The MAMMI Study UI Strand

A special thanks to

– The midwives and midwifery students

– The IT Midwives

– The medical records staff

Administrative and other colleagues who are supporting the MAMMI study
This presentation will focus on

The help and advice-seeking behaviour of primiparous women who experience SUI before and during early pregnancy

(Data from women enrolled up to March 2014, n=1183)

• Women with SUI before pregnancy
• Women with SUI during pregnancy

Qualitative comments from survey 1, the antenatal survey

The MAMMI Study UI Strand
Maternal health And Maternal Morbidity in Ireland

Trinity College Dublin

MRC Hubs for Trials Methodology Research
All-Ireland Hub

Health Research Board
This presentation will focus on

The help and advice-seeking behaviour of primiparous women who experience SUI before and during early pregnancy
(Data from women enrolled up to March 2014, n=1183)

- Women with SUI before pregnancy
- Women with SUI during pregnancy

- The presentation will include
  - Overview of study methodology
  - Aim and objectives of the MAMMI Study UI Strand
  - Key take home message

Qualitative comments from survey 1, the antenatal survey
Mixed methods design
The MAMMI Study

A cohort study with 2,000 first-time mothers: public, private, semi-private – survey.

Women are recruited at the booking visit in two large maternity hospitals

(1600 from 1st site and 400 from 2nd site)
Mixed methods design

Trinity College Dublin

The MAMMI Study

Survey 1 Antenatal First booking visit

Survey 2 3 months postpartum

Survey 3 6 months postpartum

Survey 4 9 months postpartum

Survey 5 12 months postpartum

The MAMMI Study

A research study of mother and mother's health during pregnancy and after giving birth.

Survey Booklet One: Antenatal

I

Study No

Thank you for taking the time to complete this survey. If you have any questions or need help answering any of the questions, please feel free to call 03456.

The MAMMI survey has been approved by the Research Ethics Committees Hospital and the Faculty of Health Sciences, Trinity College Dublin.

Please tick here if you do not wish to complete this or future surveys.

Survey Booklet Two: 3 Months Postnatal

Study No

Thank you for taking the time to complete this survey. It will take

to complete and your answers are confidential. If you have any questions or need help answering any of the questions, please feel free to call 03456.

The MAMMI survey has been approved by the Research Ethics Committees Hospital and the Faculty of Health Sciences, Trinity College Dublin.

Please tick here if you do not wish to complete this or future surveys.

Survey Booklet Three: 6 Months Postnatal

Study No

Thank you for taking the time to complete this survey. It will take

to complete and your answers are confidential. If you have any questions or need help answering any of the questions, please feel free to call 03456.

The MAMMI survey has been approved by the Research Ethics Committees Hospital and the Faculty of Health Sciences, Trinity College Dublin.

Please tick here if you do not wish to complete this or future surveys.

Survey Booklet Four: 9 Months Postnatal

Study No

Thank you for taking the time to complete this survey. It will take

to complete and your answers are confidential. If you have any questions or need help answering any of the questions, please feel free to call 03456.

The MAMMI survey has been approved by the Research Ethics Committees Hospital and the Faculty of Health Sciences, Trinity College Dublin.

Please tick here if you do not wish to complete this or future surveys.

Survey Booklet Five: Twelve Months Postnatal

Study No

Thank you for taking the time to complete this survey. It will take

to complete and your answers are confidential. If you have any questions or need help answering any of the questions, please feel free to call 03456.

The MAMMI survey has been approved by the Research Ethics Committees Hospital and the Faculty of Health Sciences, Trinity College Dublin.

Please tick here if you do not wish to complete this or future surveys.
Mixed methods design

Trinity College Dublin

Survey Booklet One: Antenatal

Identify factors amenable to modification and trialling in future studies

Data collection from women’s records

Interviews with women experiencing a morbidity

To ascertain health service and self-help seeking behaviour

Survey 1
Antenatal
First booking visit

Survey 2
3 months postpartum

Survey 3
6 months postpartum

Survey 4
9 months postpartum

Survey 5
12 months postpartum

Mixed methods design

Thank you for taking the time to complete this survey. If you do not want to complete it or your answers are confidential, please do not answer any of the questions, a blank response will be recorded. If you know any of the women, please do not answer any of the questions, please feel free to call me - [Name] on [Tel].

The MAMMI study has been approved by the Research Ethics Committee of the Hospital for Sick Children, Trinity College Dublin and the Faculty of Health Sciences, Trinity College Dublin.

Mixed methods design

Trinity College Dublin
The MAMMI Study

Each of the surveys asks women about...

2000 primiparous women (A/N, 3, 6, 9 and 12 months postpartum)

Data collection from women’s records

One-to-one interviews with women experiencing a morbidity (n=20-30)

General health

Intimate partner violence

2000 primiparous women (A/N, 3, 6, 9 and 12 months postpartum)

Mental health

Pain

Sexual health

Urinary incontinence (UI)

Faecal incontinence

Survey 1
Antenatal
First booking visit

Survey 2
3 months postpartum

Survey 3
6 months postpartum

Survey 4
9 months postpartum

Survey 5
12 months postpartum

Trinity College Dublin
Aim:
To identify the existence, extent, prevalence and associated risk factors for urinary incontinence (UI), one marker of maternal morbidity, in 1600 primiparous women antenatally and at 3 and 6 months postpartum.
Today’s presentation focuses on objective (3) The help and advice-seeking behaviour of women with SUI before and during pregnancy

1183 primiparous women SUI before and during pregnancy - help and advice seeking behaviour

- Urinary incontinence (UI)
- Faecal incontinence (FI)
- Intimate partner violence
- Sexual health
- General health
- Mental health
- Pain

Trinity College Dublin

The MAMMI Study UI Strand

Trinity College Dublin
Definition - Urinary Incontinence (UI)

• The complaint of any involuntary leakage of urine
  – Stress Urinary Incontinence (SUI)
    • Involuntary leakage on effort or exertion, or on sneezing or coughing
  – Urge Urinary Incontinence (UUI)
    • Involuntary leakage accompanied by or immediately preceded by urgency.
  – Mixed Urinary Incontinence (MUI)
    • Involuntary leakage associated with urgency and also with exertion, effort, sneezing or coughing.

Definitions
• Preliminary data
  • (~40%) of primiparous women are being offered information on the MAMMI study
  • Of those given the information, about two in five complete the survey
  • Response rate (~40%)
# Nationality (n=1183)

<table>
<thead>
<tr>
<th>Nationality</th>
<th>The MAMMI Study</th>
<th>Site hospital 2012 (n = 9116) (all women)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Irish</td>
<td>766</td>
<td>64.8</td>
</tr>
<tr>
<td>EU</td>
<td>291</td>
<td>24.6</td>
</tr>
<tr>
<td>Non-EU</td>
<td>107</td>
<td>9.0</td>
</tr>
<tr>
<td>Not stated</td>
<td>19</td>
<td>1.6</td>
</tr>
<tr>
<td>Age group</td>
<td>The MAMMI Study</td>
<td>Site hospital 2012 (n=3928) (primiparae)</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Up to 24</td>
<td>99</td>
<td>8.4</td>
</tr>
<tr>
<td>25 to 29</td>
<td>293</td>
<td>24.8</td>
</tr>
<tr>
<td>30 to 34</td>
<td>493</td>
<td>41.7</td>
</tr>
<tr>
<td>35 to 39</td>
<td>256</td>
<td>21.6</td>
</tr>
<tr>
<td>40 and over</td>
<td>41</td>
<td>3.5</td>
</tr>
</tbody>
</table>
## BMI categories (n=1085)

<table>
<thead>
<tr>
<th>BMI categories</th>
<th>The MAMMI Study</th>
<th>Site hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Underweight (≤ 18.49)</td>
<td>68</td>
<td>5.7</td>
</tr>
<tr>
<td>Ideal (18.5-24.9)</td>
<td>729</td>
<td>61.6</td>
</tr>
<tr>
<td>Overweight (25-29.9)</td>
<td>186</td>
<td>15.7</td>
</tr>
<tr>
<td>Obese (30-34.9)</td>
<td>84</td>
<td>7.1</td>
</tr>
<tr>
<td>Very obese (≥ 35)</td>
<td>18</td>
<td>1.5</td>
</tr>
<tr>
<td>Total</td>
<td>1085</td>
<td>91.7</td>
</tr>
<tr>
<td>Missing</td>
<td>1183</td>
<td>8.3</td>
</tr>
</tbody>
</table>
Prevalence of SUI before & during pregnancy

1183 primiparous women
SUI before during pregnancy - help and advice seeking behaviour
### SUI before pregnancy

<table>
<thead>
<tr>
<th></th>
<th>Before pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 1183</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>No</td>
<td>922</td>
</tr>
<tr>
<td>Yes</td>
<td>261</td>
</tr>
</tbody>
</table>
## SUI before and during pregnancy

<table>
<thead>
<tr>
<th></th>
<th>Before pregnancy</th>
<th>During pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 1183</td>
<td>n = 1180</td>
</tr>
<tr>
<td>No</td>
<td>922 (77.9%)</td>
<td>804 (68.1%)</td>
</tr>
<tr>
<td>Yes</td>
<td>261 (22.1%)</td>
<td>376 (31.9%)</td>
</tr>
</tbody>
</table>
### SUI before and during pregnancy

<table>
<thead>
<tr>
<th></th>
<th>Before pregnancy</th>
<th></th>
<th>During pregnancy</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 1183</td>
<td>%</td>
<td>n = 1180</td>
<td>%</td>
</tr>
<tr>
<td>No</td>
<td>922</td>
<td>77.9%</td>
<td>804</td>
<td>68.1%</td>
</tr>
<tr>
<td>Yes</td>
<td>261</td>
<td>22.1%</td>
<td>376</td>
<td>31.9%</td>
</tr>
<tr>
<td>SUI once a month or</td>
<td>56</td>
<td>4.7%</td>
<td>169</td>
<td>14.3%</td>
</tr>
<tr>
<td>more frequently</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SUI, UUI & MUI before and during pregnancy

<table>
<thead>
<tr>
<th></th>
<th>Before pregnancy</th>
<th>During pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 1183</td>
<td>%</td>
</tr>
<tr>
<td>SUI</td>
<td>261</td>
<td>22.1%</td>
</tr>
<tr>
<td>UUI</td>
<td>290</td>
<td>24.6%</td>
</tr>
<tr>
<td>MUI</td>
<td>149</td>
<td>12.6%</td>
</tr>
</tbody>
</table>
### SUI before pregnancy – help and advice-seeking behaviour

<table>
<thead>
<tr>
<th></th>
<th>Before pregnancy</th>
<th>During pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 1183</td>
<td>n = 1180</td>
</tr>
<tr>
<td>No</td>
<td>922 (77.9%)</td>
<td>804 (68.1%)</td>
</tr>
<tr>
<td>Yes</td>
<td>261 (22.1%)</td>
<td>376 (31.9%)</td>
</tr>
<tr>
<td>SUI once a month or</td>
<td>56 (4.7%)</td>
<td>169 (14.3%)</td>
</tr>
<tr>
<td>more frequently</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The help and advice-seeking behaviour of women with any, including occasional, UI
### SUI before pregnancy – help and advice-seeking behaviour

<table>
<thead>
<tr>
<th>SUI once a month or more frequently</th>
<th>Before pregnancy</th>
<th>Had you ever talked to a doctor or other healthcare professional?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>261 (22.1%)</td>
<td></td>
</tr>
<tr>
<td>SUI once a month or more frequently</td>
<td>56 (4.7%)</td>
<td></td>
</tr>
</tbody>
</table>

The help and advice-seeking behaviour women with SUI before pregnancy

Survey 1
Antenatal
First booking visit
# SUI before pregnancy – help and advice-seeking behaviour

<table>
<thead>
<tr>
<th></th>
<th>Before pregnancy</th>
<th>Had you ever talked to a doctor or other healthcare professional?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yes</strong></td>
<td>261 (22.1%)</td>
<td>9.2% (n=24)</td>
</tr>
<tr>
<td>SUI once a month or more frequently</td>
<td>56 (4.7%)</td>
<td></td>
</tr>
</tbody>
</table>

*The help and advice-seeking behaviour women with SUI before pregnancy*
SUI before pregnancy – help and advice-seeking behaviour

Healthcare professionals women talked to about controlling urinary leakage (n=24)
SUI before pregnancy – help and advice-seeking behaviour

Other

i. **Urologist** (referred aged 19 years)

ii. **Back surgeon** (told me there was nothing wrong with me)

iii. **In hospital** (in Denmark)

Other comments

‘Only leaked…’

- when no toilet nearby
- when I was unwell
- after hot bath
- during physical exercise
- with kidney infection

- drink less coffee & tea now (…saw it on TV)
This information is important because...

• Women reporting occasional UI before pregnancy have raised odds of developing UI during pregnancy

Brown et al 2010
SUI before pregnancy & persisting during pregnancy

<table>
<thead>
<tr>
<th></th>
<th>Before pregnancy</th>
<th>SUI persisting in pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 261</td>
<td>n = 193</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>261</td>
<td>193</td>
</tr>
<tr>
<td>SUI once a month or more frequently</td>
<td>56</td>
<td>89</td>
</tr>
</tbody>
</table>

22.1% for Yes before pregnancy, 73.9% for Yes during pregnancy, 4.7% for SUI once a month or more frequently during pregnancy.
The MAMMI Study UI Strand

SUI during pregnancy

1183 primiparous women
SUI during pregnancy - help and advice seeking behaviour
# SUI during pregnancy – help and advice-seeking behaviour

<table>
<thead>
<tr>
<th></th>
<th>During pregnancy</th>
<th>Have you talked to a doctor, midwife or other healthcare professional?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n = 1180</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No</strong></td>
<td>804 (68.1%)</td>
<td></td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td>376 (31.9%)</td>
<td></td>
</tr>
<tr>
<td><strong>SUI once a month or more frequently</strong></td>
<td>169 (14.3%)</td>
<td></td>
</tr>
</tbody>
</table>

The help and advice-seeking behaviour women with SUI during pregnancy

Survey Booklet One: Antenatal

Antenatal First booking visit

Study No. 11212
## SUI during pregnancy – help and advice-seeking behaviour

<table>
<thead>
<tr>
<th>SUI frequency</th>
<th>During pregnancy</th>
<th>Have you talked to a doctor, midwife or other healthcare professional?</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>804 68.1%</td>
<td>12.1% (n=45)</td>
</tr>
<tr>
<td>Yes</td>
<td>372 31.9%</td>
<td>Have you talked to a doctor, midwife or other healthcare professional?</td>
</tr>
<tr>
<td>SUI once a month or more frequently</td>
<td>169 14.3%</td>
<td>Have you talked to a doctor, midwife or other healthcare professional?</td>
</tr>
</tbody>
</table>
SUI during pregnancy – help and advice-seeking behaviour

Healthcare professionals women talked to about SUI during pregnancy (n=45)
SUI during pregnancy – help and advice-seeking behaviour

Other

i. Kidney doctor (in maternity hospital)
ii. Cousin (Physio)
iii. Nurse in HARI (infertility clinic)
iv. Friend
v. Some mothers
vi. During booking visit

Other comments

- I take frequent samples to GP
- It’s minimal
- Not yet
SUI during pregnancy – help and advice-seeking behaviour

All women experiencing SUI during pregnancy (n=376)

127 comments (out of 158 qualitative comments from survey 1, the antenatal survey)

Organised into 2 themes
SUI during pregnancy – help and advice-seeking behaviour - theme (i)

All women experiencing SUI during pregnancy (n=376)

Recurring theme (i)

It’s not...
SUI during pregnancy – help and advice-seeking behaviour - theme (i)

All women experiencing SUI during pregnancy (n=376)

Recurring theme (i)
It’s not...

- a problem (119)
- an issue (24)
- necessary (11)
- a big issue (10)
- a major problem (9)
- a concern (6)
- serious (4)
- important (4)
- a worry (4)
- really leaking (3)
All women experiencing SUI during pregnancy (n=376)

Recurring theme (ii)

It’s...
SUI during pregnancy – help and advice-seeking behaviour - theme (ii)

All women experiencing SUI during pregnancy (n=376)

- minor (14)
- only...(12)

Recurring theme (ii)

It’s...

- normal (7)
- part of pregnancy (5)
All women experiencing SUI during pregnancy (n=376)

- haven’t been able to talk about it (45)
- don’t want to talk about it (38)
- don’t think about it
- didn’t think anything could be done
- control my fluid intake
- felt silly... (talking about it)
- have started pelvic floor exercises
- will talk about it if it gets worse
- can cope/manage

How women felt or what they did about SUI...
This information really is important because...

- Women reporting occasional UI before pregnancy have raised odds of developing UI during pregnancy
  - Brown et al 2010

- Women who develop UI during the first pregnancy or puerperium have a significantly higher risk of UI 5 years later than women without UI symptoms
  - Viktrup & Lose 2000
So what can we learn from these data?

Interpret data with caution as these findings are preliminary.

However, analysis of data from these 1183 women show that...
So what can we learn from these data?

- More than 1 in 5 participants experienced SUI before their first pregnancy
  - 9 out of 10 women did not talk to a healthcare professional

<table>
<thead>
<tr>
<th>SUI before pregnancy</th>
<th>Key points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>261 women (22.1%) experienced SUI before pregnancy</td>
</tr>
<tr>
<td></td>
<td>56 (4.7%) women experienced SUI once a month or more frequently</td>
</tr>
<tr>
<td></td>
<td>237 women (90.8%) did not talk to a healthcare professional</td>
</tr>
</tbody>
</table>
Almost 1 in 3 participants experienced SUI during early pregnancy.

- Almost 9 out of 10 women did not talk to a healthcare professional.

### Key points

<table>
<thead>
<tr>
<th>SUI during pregnancy</th>
<th>Key points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>376 women (31.9%) experienced SUI in early pregnancy</td>
</tr>
<tr>
<td></td>
<td>169 women (14.3%) experienced SUI once a month or more frequently</td>
</tr>
<tr>
<td></td>
<td>331 women (88%) did not talk to a healthcare professional</td>
</tr>
</tbody>
</table>
This is relevant because...

- Opportunities for continence promotion are being lost (before and during early pregnancy)
  - Women reporting occasional UI before pregnancy have raised odds of developing UI during pregnancy
    - Brown et al 2010
  - Women who develop UI during the first pregnancy or puerperium have a significantly higher risk of UI 5 years later than women without UI symptoms
    - Viktrup & Lose 2000
Key message

Urinary incontinence is not normal and can be treated

Women who have urinary incontinence can become continent

...but the process must start with discussion and enabling disclosure
The MAMMI Study UI Strand

• Future work

• The MAMMI study is ongoing
  • Sample size is 1600 (2000 with Galway site)

• Detailed analyses are required before data are truly understood and statistical significance and associations are ascertained
  • Only then can modifiable factors be identified

http://www.mammi.ie/
The MAMMI Study UI Strand

Sincerest thanks to

— **The women** (all women including those who are not taking part but who read the information)

— My colleagues **Margaret Carroll, Deirdre O’Malley, Francesca Wuytack, Sunita Panda, Louise Rafferty**

— **Rebekah Maguire** and **Sophie Clare** who worked with us on the MAMMI study in summer 2012

— **The Health Research Board (HRB)** for funding the MAMMI study (UI) strand

— **Professor Stephanie Brown**, Murdoch Children’s Research Institute, Australia for granting permission to use and modify surveys
The MAMMI Study UI Strand

Sincerest thanks to my supervisors

Professor Cecily Begley

&

Professor Mike Clarke

Principal Investigators (PIs) on the MAMMI Study
The MAMMI Study UI Strand

Thank you

Thanks to the conference organisers and scientific committee for the opportunity to present

http://www.mammi.ie/
References and recommended reading