

Trinity College Dublin

The MAMMI Study UI Strand

Maternal health And Maternal Morbidity in Ireland

Urinary Incontinence (UI) before and during early pregnancy

Findings from the MAMMI study UI strand

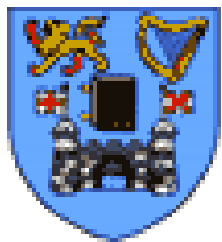
30th Triennial Congress, ICM Prague 2014
Midwives: Improving Women's Health Globally

Déirdre Daly

Assistant Professor of Midwifery/HRB Research Fellow, Trinity College Dublin

Supervisors:

Professor Cecily Begley, TCD and Professor Mike Clarke, QUB (Adjunct Professor TCD)

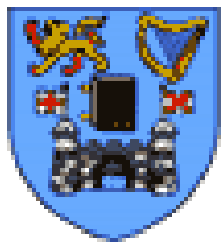


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Sincerest thanks to

- **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, Jamile Marchi, Louise Rafferty**
- 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



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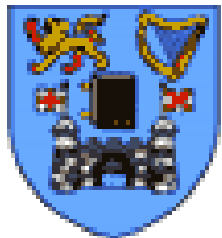
The MAMMI Study UI Strand

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





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The MAMMI Study UI Strand

Maternal health And Maternal Morbidity in Ireland

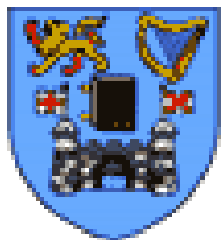
This presentation will focus on

UI in primiparous women before and during early pregnancy

(Data from women enrolled up to April 2014, n=1215)

- (i) Background to the MAMMI study
- (ii) Prevalence of UI before and during early pregnancy
- (iii) Factors associated with UI
- (iv) Help and advice-seeking behaviour of women

Conclude with key message



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Mixed methods design

The MAMMI Study

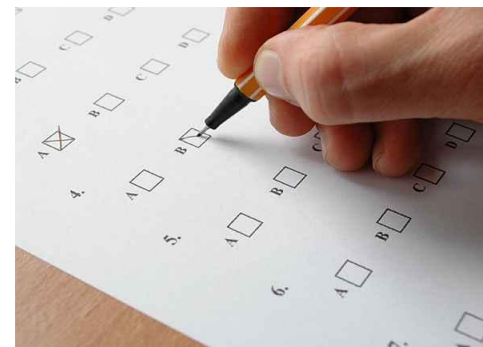
A cohort study with 2,000 first-time mothers: public, private, semi-private – survey.

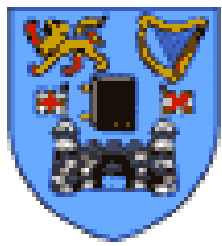
Women are **recruited at the booking visit** in two large maternity hospitals

(**1600** from **1st** site,

400 from **2nd** site)

(**600** from **3rd** site commencing 09/2014)





Mixed methods design



The MAMMI Study

Trinity College Dublin

Study No

Study No

Study No

Study No

Study No

The MAMMI study

Maternal health And Maternal Morbidity in Ireland

A research study of 1600 first-time mothers' health during pregnancy and after giving birth.

Survey Booklet One: Antenatal 1

Thank you for taking the time to complete this survey. It will take you about 30 minutes to complete it and your answers are **confidential**. If you have any questions at all, or need help answering any of the questions, please feel free to call me – Deirdre Daly on 01 88888888.

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

Please tick here if you do NOT wish to complete this or future surveys ☐

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Survey Booklet Two: 3 Months Postnatal 2

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Survey Booklet Three: 6 Months Postnatal 3

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Survey Booklet Four: 9 Months Postnatal 4

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Survey Booklet Five: Twelve Months Postnatal 5

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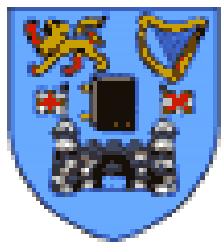
Survey 1
Antenatal
First booking visit

Survey 2
3 months
postpartum

Survey 3
6 months
postpartum

Survey 4
9 months
postpartum

Survey 5
12 months
postpartum



Mixed methods design

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Survey Booklet Three: 6 Months Postnatal 3

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Survey Booklet Four: 9 Months Postnatal 4

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Survey Booklet Five: Twelve Months Postnatal 5

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Study No.

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Antenatal
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Survey 2
3 months
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Survey 4
9 months
postpartum

Survey 5
12 months
postpartum

Identify factors
amenable to
modification and
trialling in future
studies

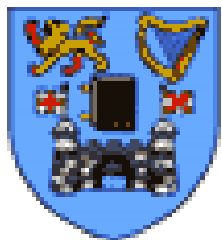
Data
collection
from
women's
records



Interviews
with women
experiencing
a morbidity



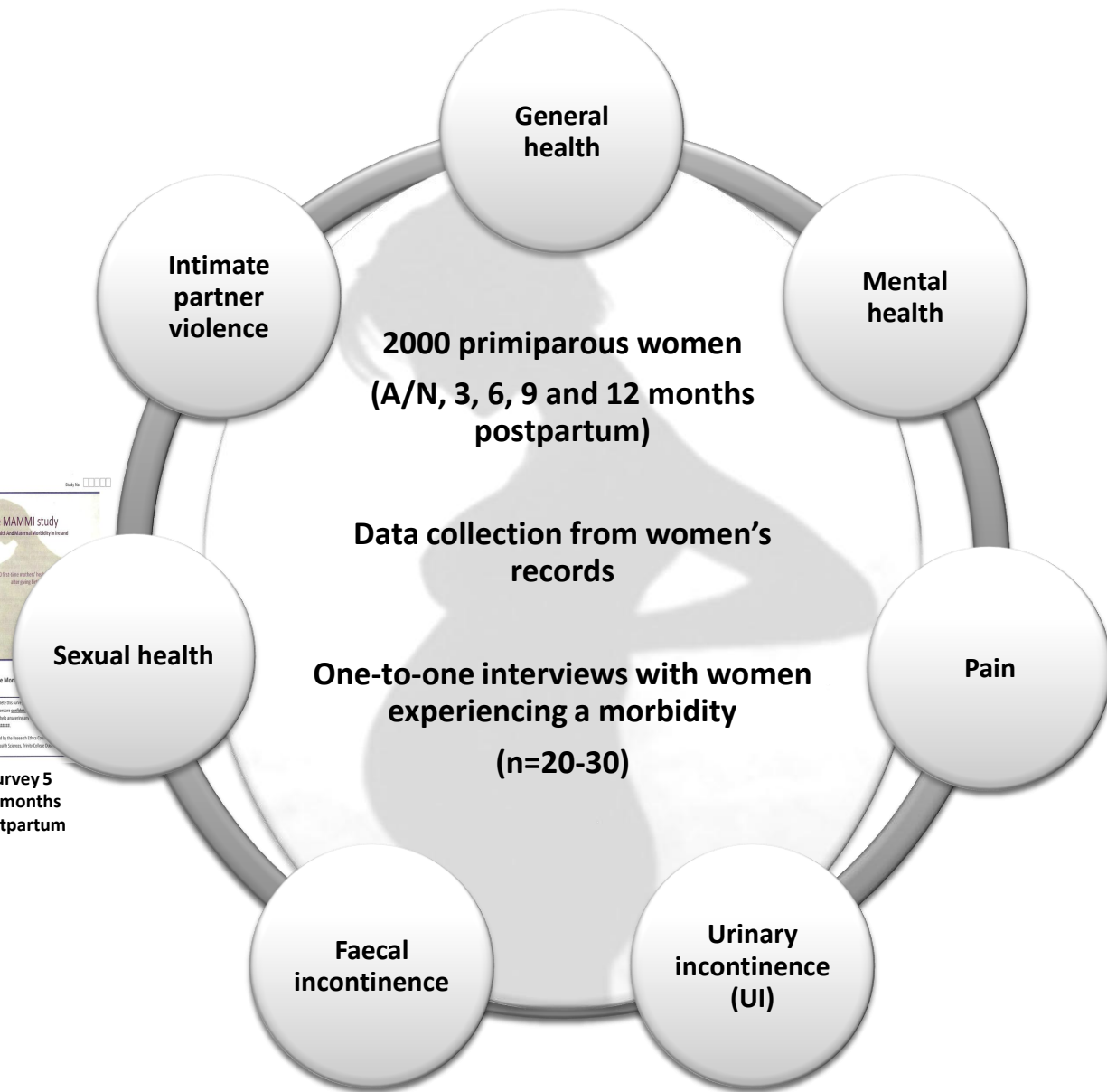
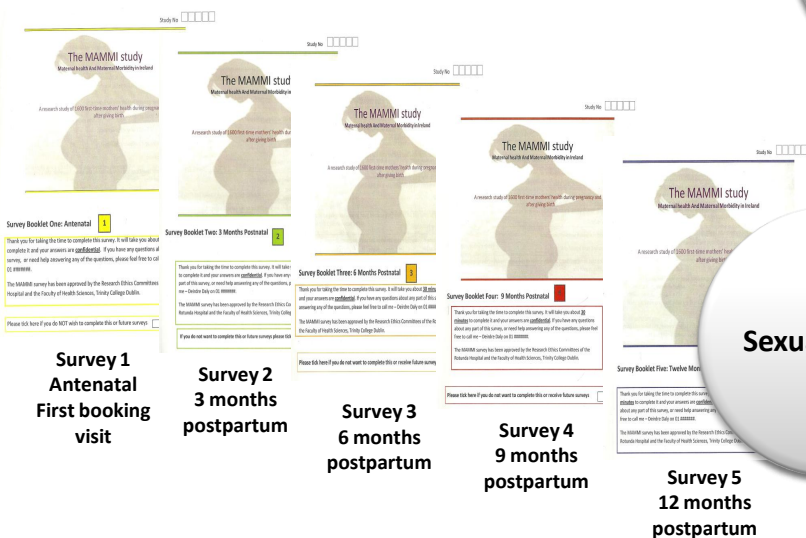
To ascertain
health service
and self-help
seeking
behaviour

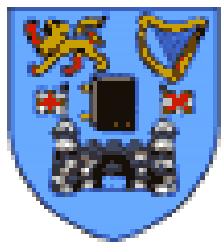


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The MAMMI Study

Each of the surveys asks women about...



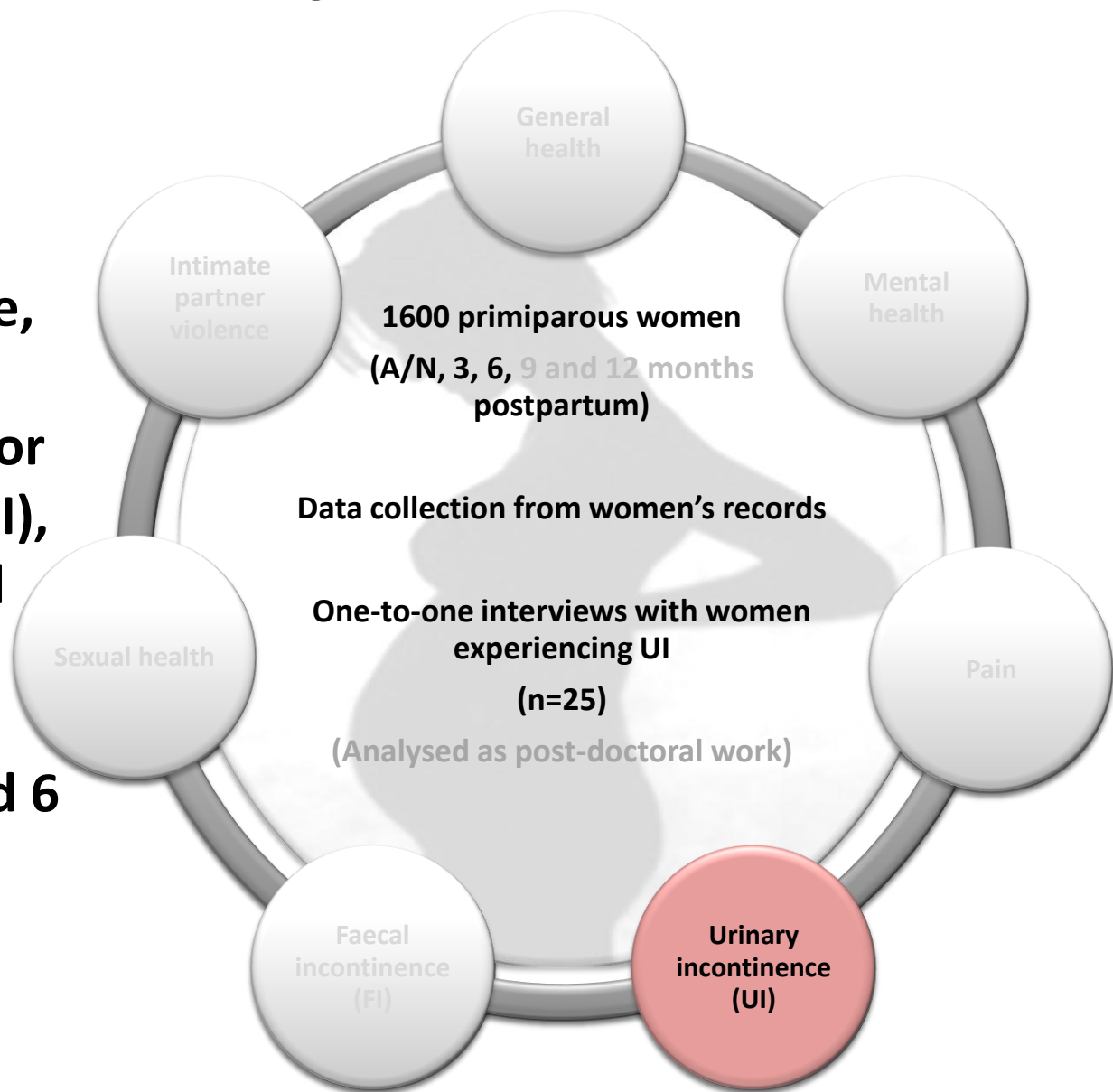


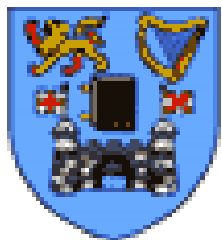
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The MAMMI Study UI Strand

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.





Definition - Urinary Incontinence (UI)

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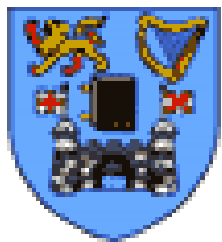
- The complaint of any involuntary leakage of urine
 - **Stress Urinary Incontinence (SUI)**
 - Involuntary leakage on effort or exertion, or on sneezing or coughing.
 - **Urge Urinary Incontinence (UUI)**
 - Involuntary leakage accompanied by or immediately preceded by urgency.
 - **Mixed Urinary Incontinence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

Definitions

Abrams et al (2002) 2nd International Consultation on Incontinence 2nd edition.

Available at: http://www.ics.org/Publications/ICI_4/book.pdf

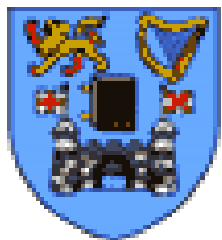




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The MAMMI study

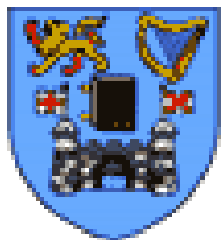
- **Preliminary data**
 - ~40% of primiparous women in the 1st site hospital are being offered information on the MAMMI study
 - Of those given the information, just under two in five women complete the survey
 - Response rate (~37%)



Nationality (n=1215)

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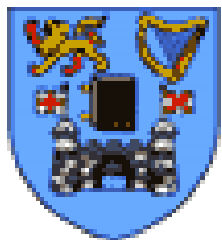
Nationality	The MAMMI Study		Site hospital 2012 (n = 9116) (all women)	
	n	%	n	%
Irish	784	64.5%	5957	65.4%
EU	312	25.7%	1929	21.2%
Non-EU	98	8.1%	1217	13.3%
Not stated	21	1.7%	13	0.1%



Age groups (n=1214)

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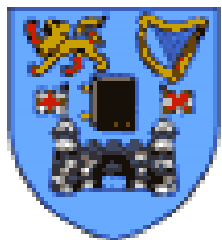
Age group	The MAMMI Study		Site hospital 2012 (n=3928) (primiparae)	
	n	%	n	%
18 to 24 years	104	8.6	872	22.2
25 to 29 years	297	24.5	1031	26.2
30 to 34 years	502	41.3	1307	33.3
35 to 39 years	268	22.1	577	14.7
40 years and over	42	3.5	141	3.6



BMI categories (n=1114)

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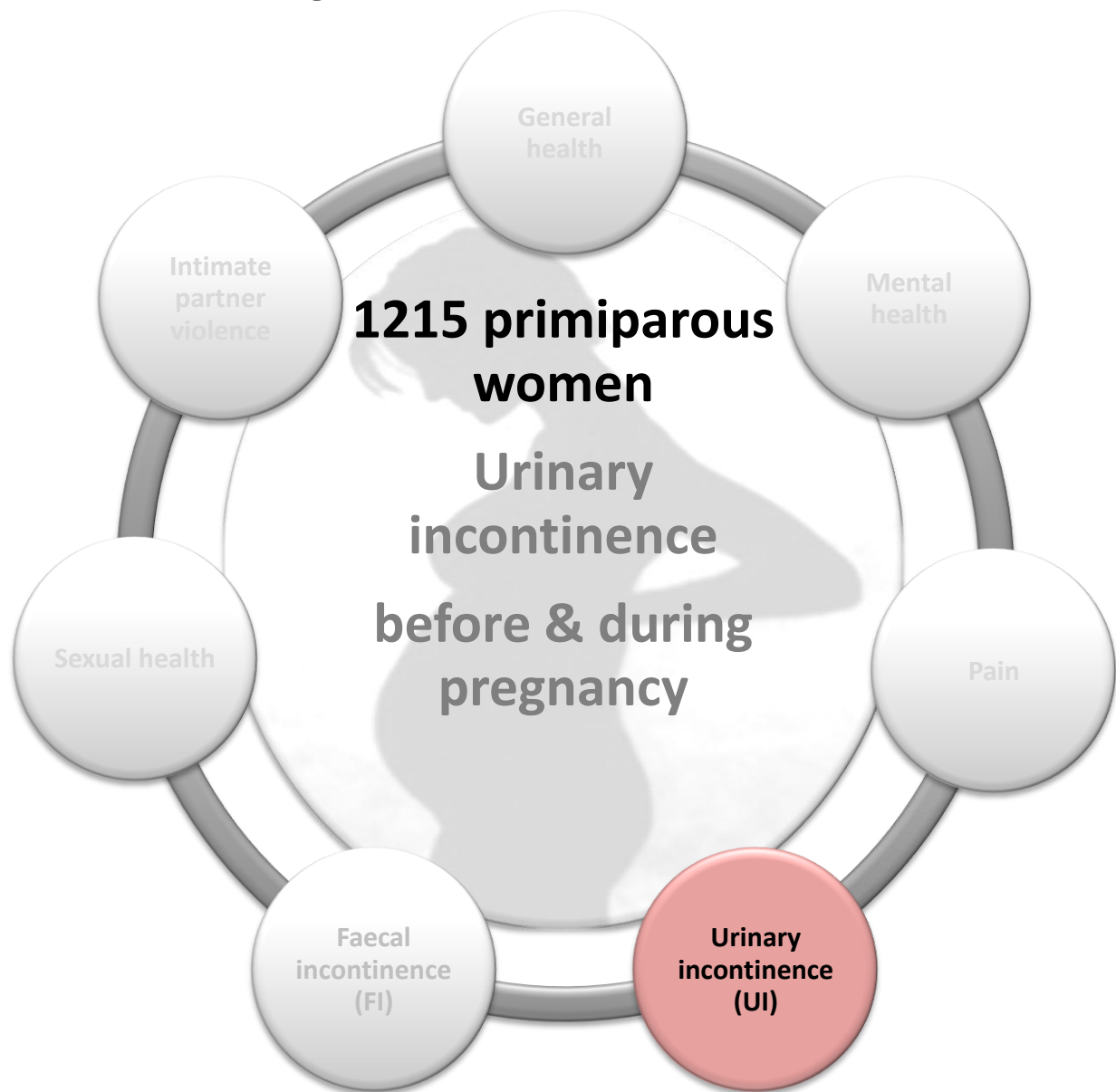
BMI categories		The MAMMI Study		Site hospital	
BMI (Kg/M ²)	n	%	n	%	
Underweight (≤ 18.49)	68	6.1	Not reported		
Ideal (18.5-24.9)	746	67.0			
Overweight (25-29.9)	193	17.3			
Obese (30-34.9)	88	7.9			
Very obese (≥ 35)	19	1.7			
Total	1114	100.0			
Calculated from women's self-reported height and pre-pregnancy weight					

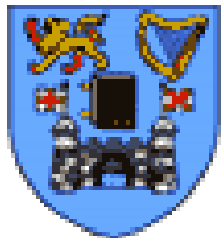


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The MAMMI Study UI Strand

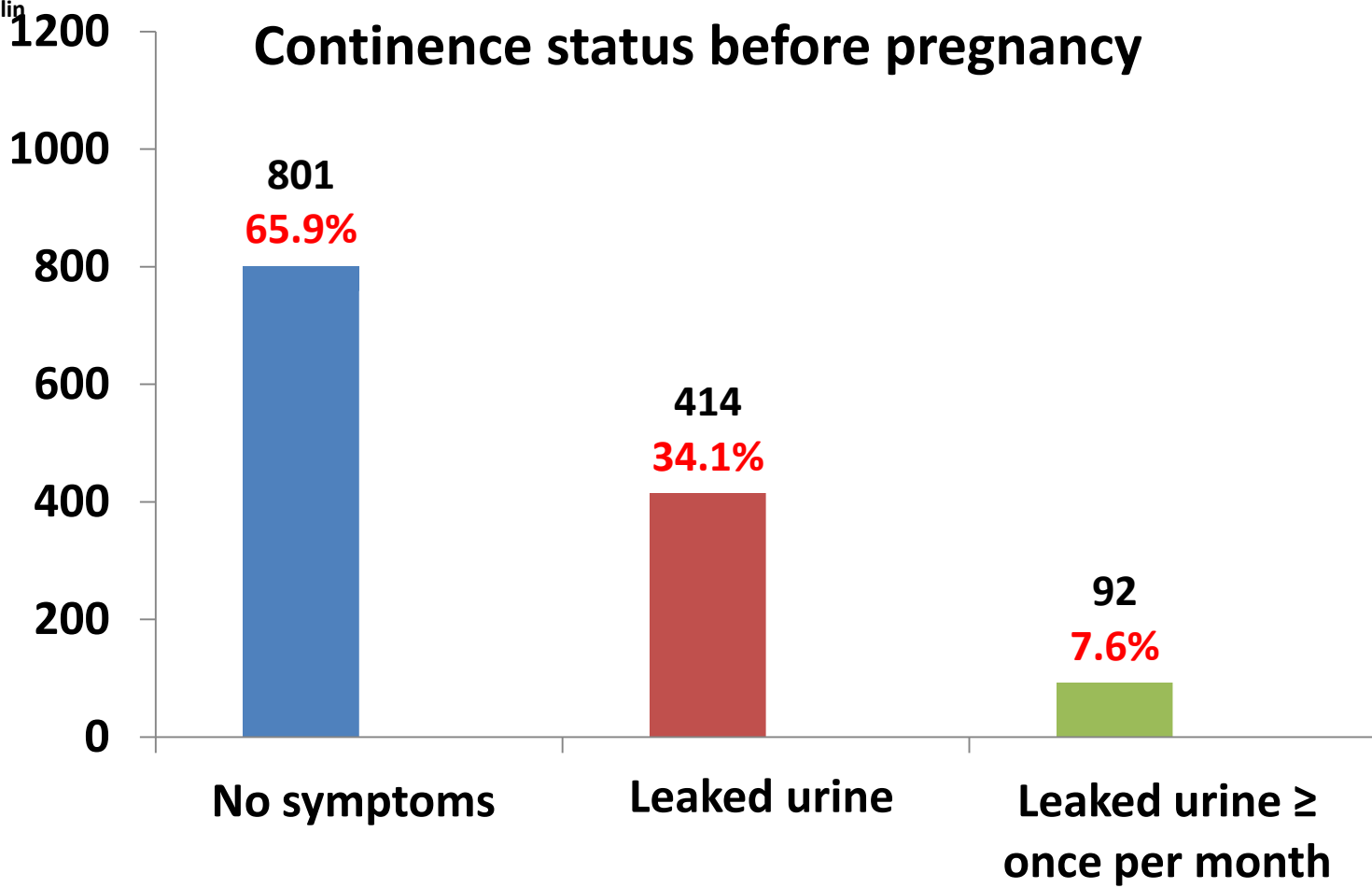
**(ii) Prevalence of
urinary
incontinence
before & during
pregnancy**



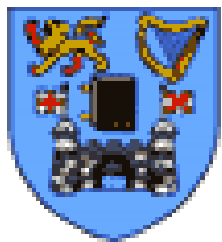


Continence status

Continence status before pregnancy

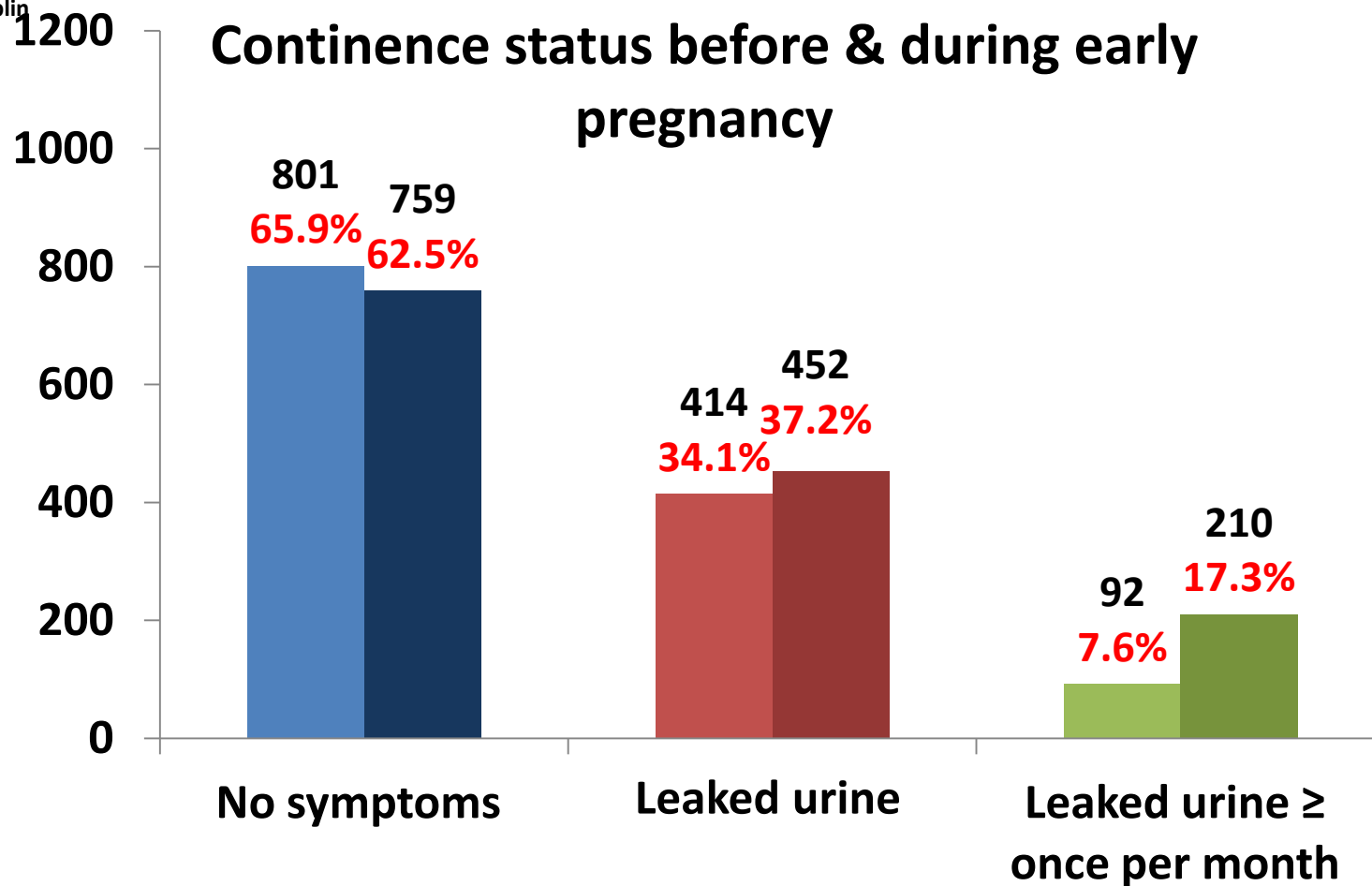


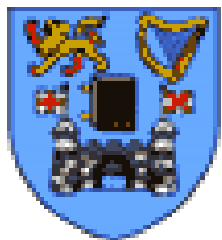
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Continence status

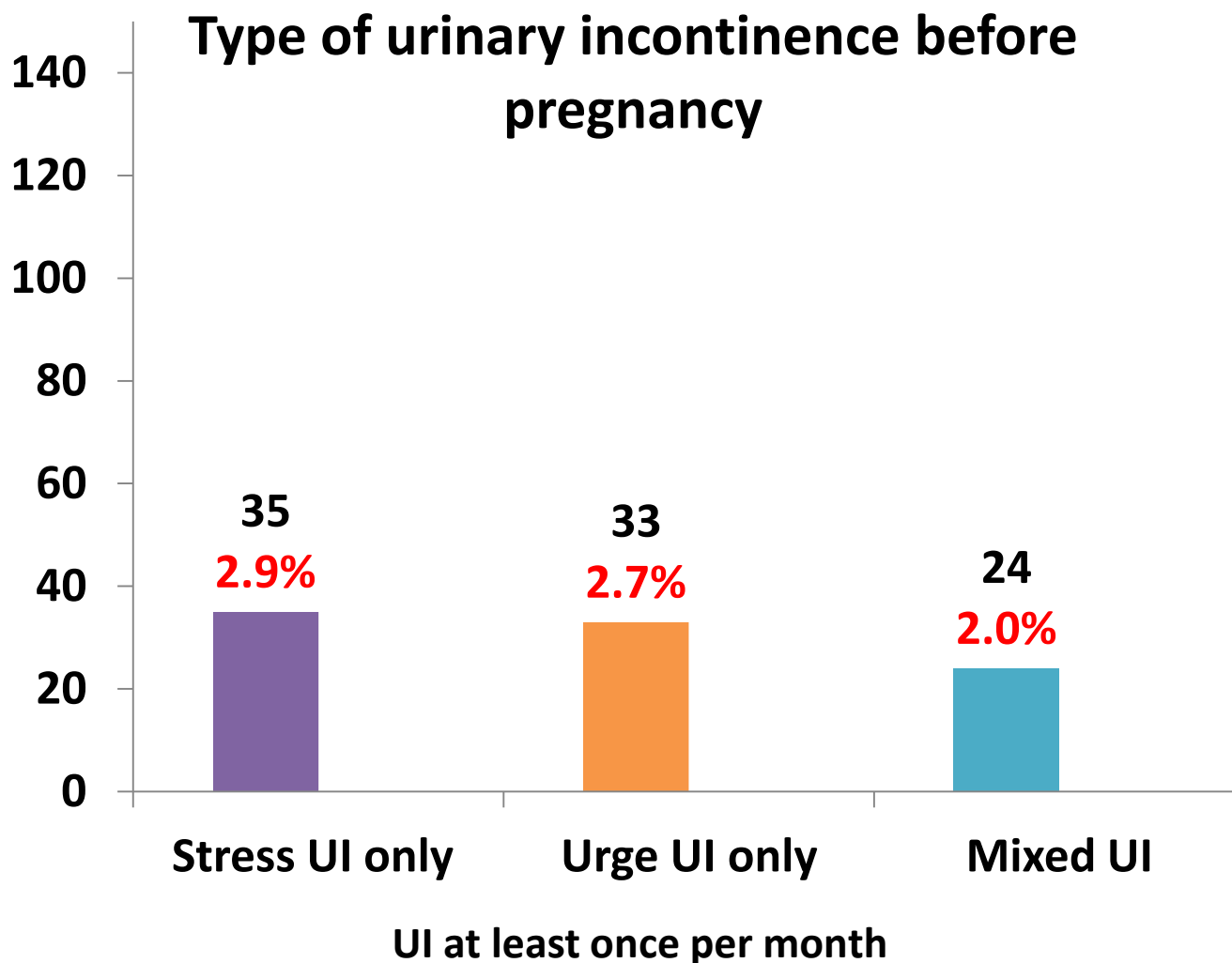
Continence status before & during early pregnancy

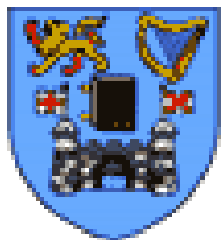




Type of urinary incontinence

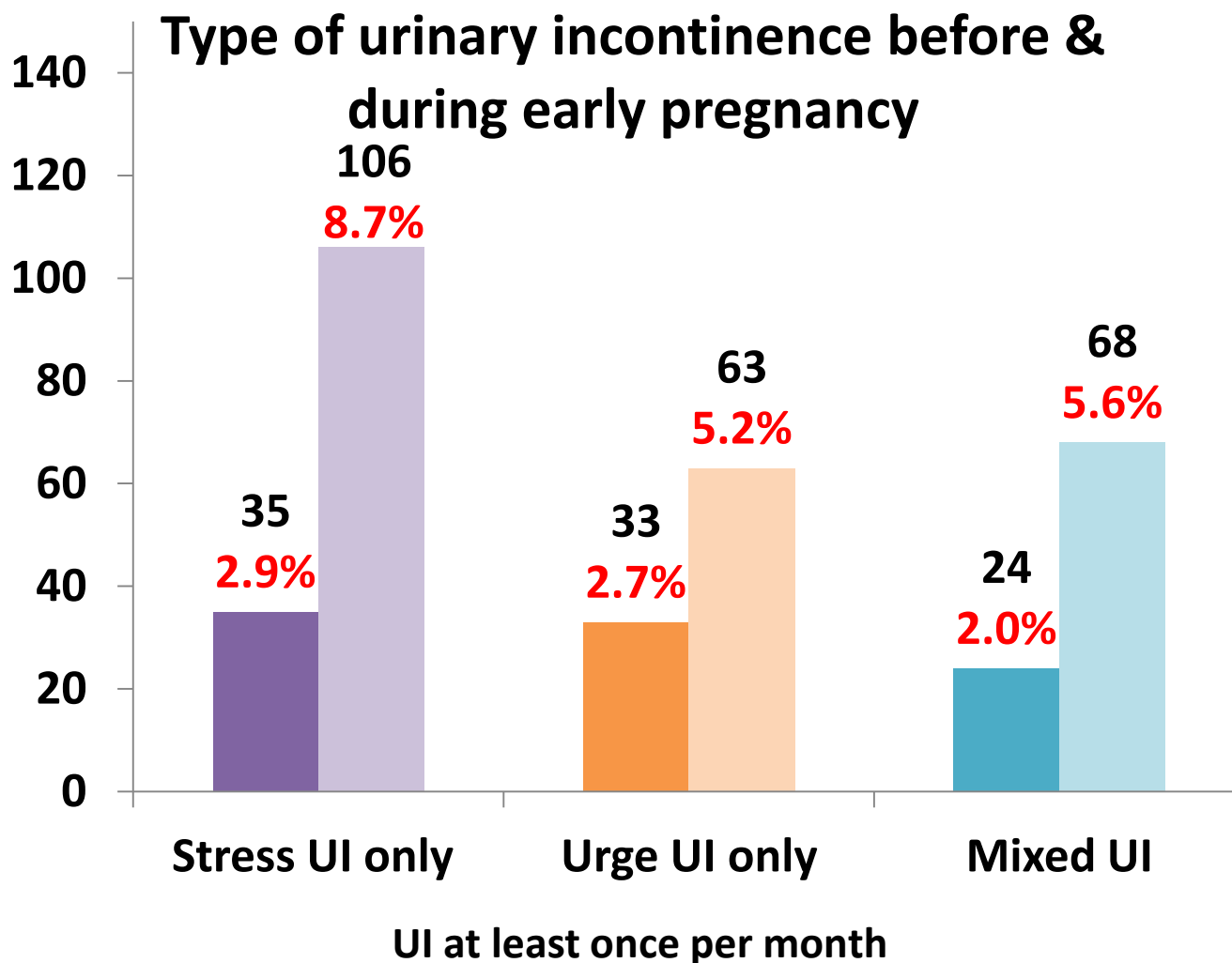
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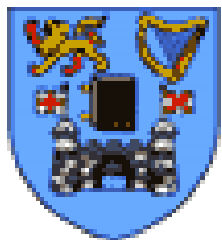




Type of urinary incontinence

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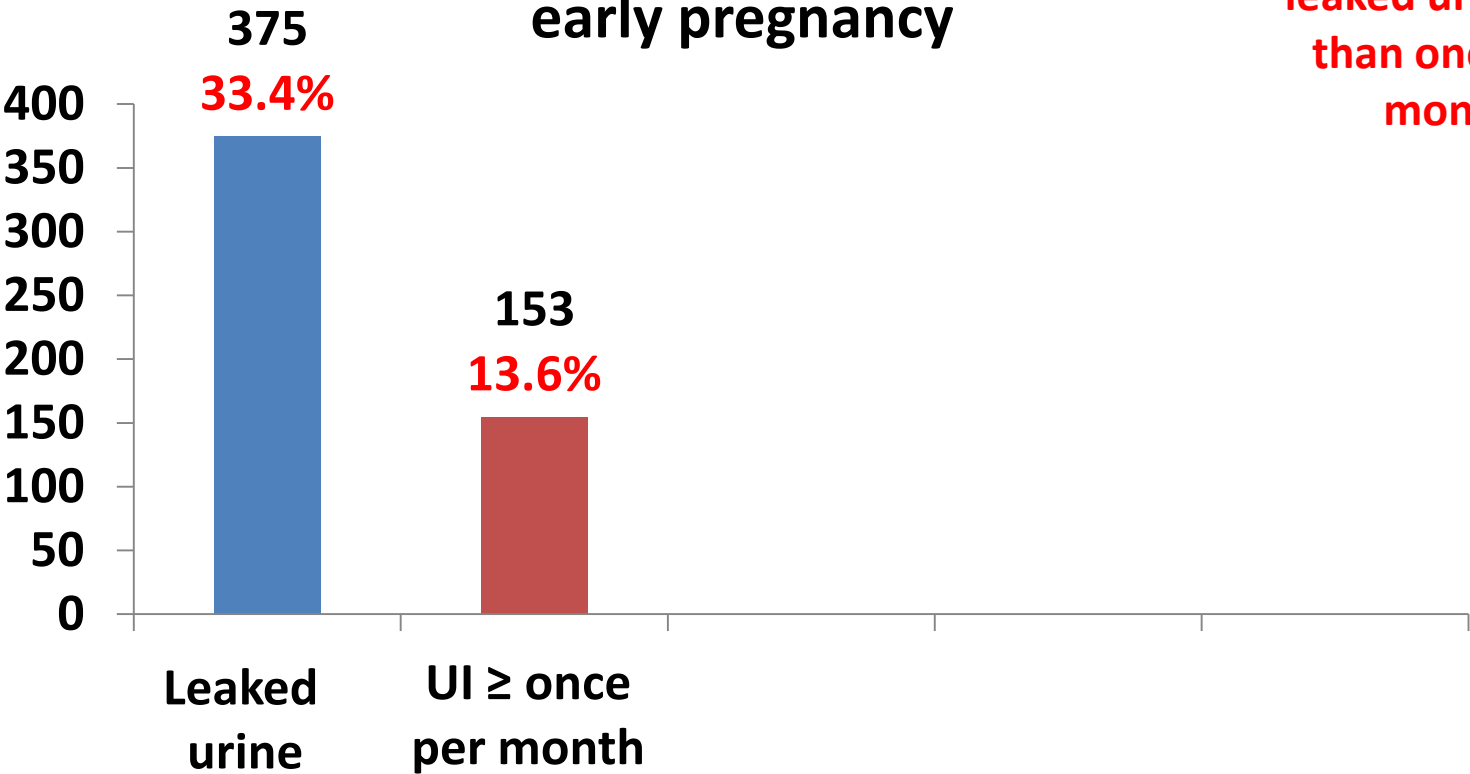




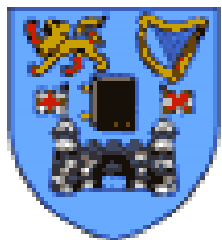
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Women who were continent before pregnancy (n=1122)

Leaked urine during early pregnancy



Women who reported no symptoms or who leaked urine less than once per month

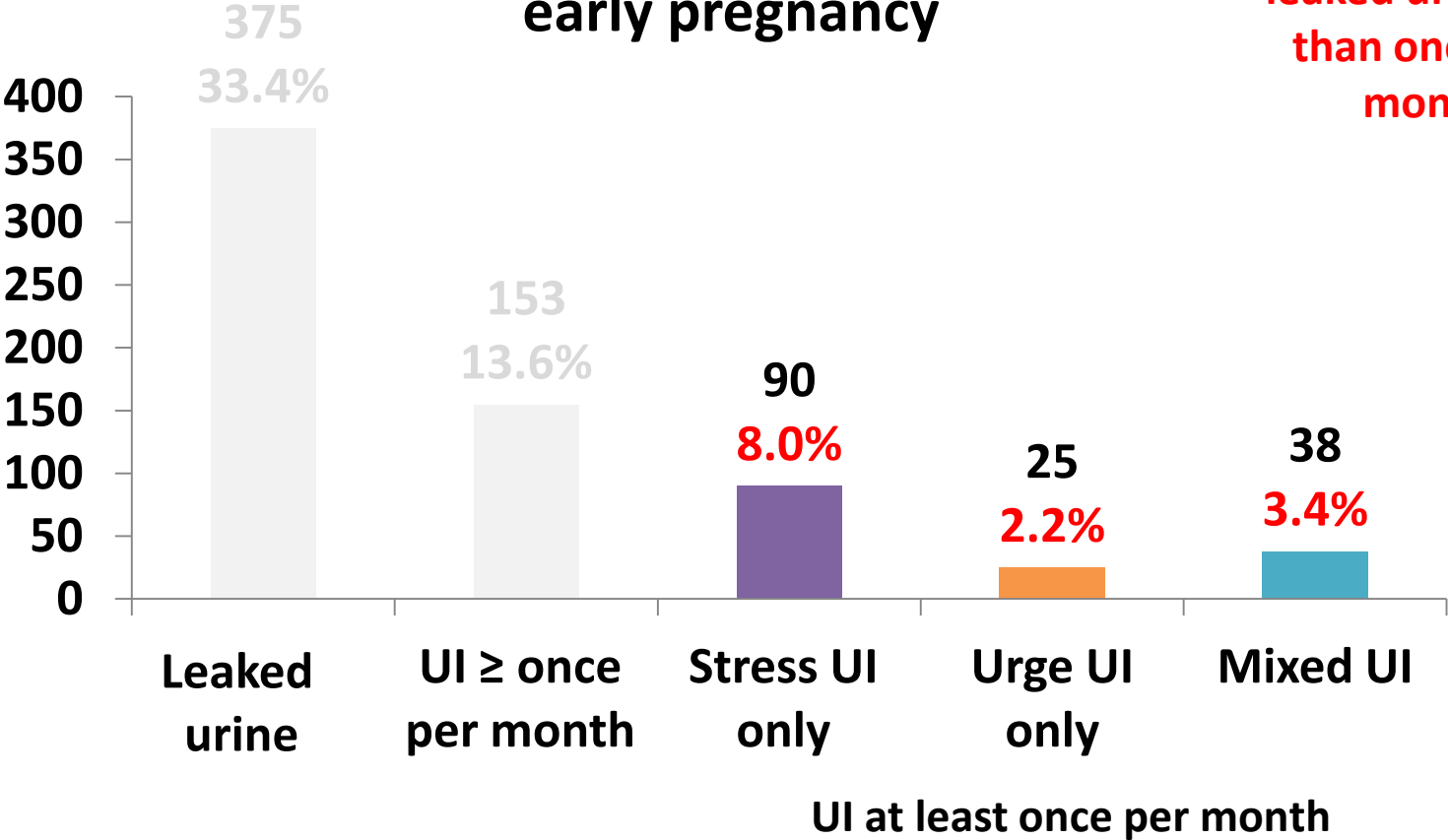


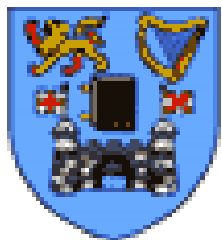
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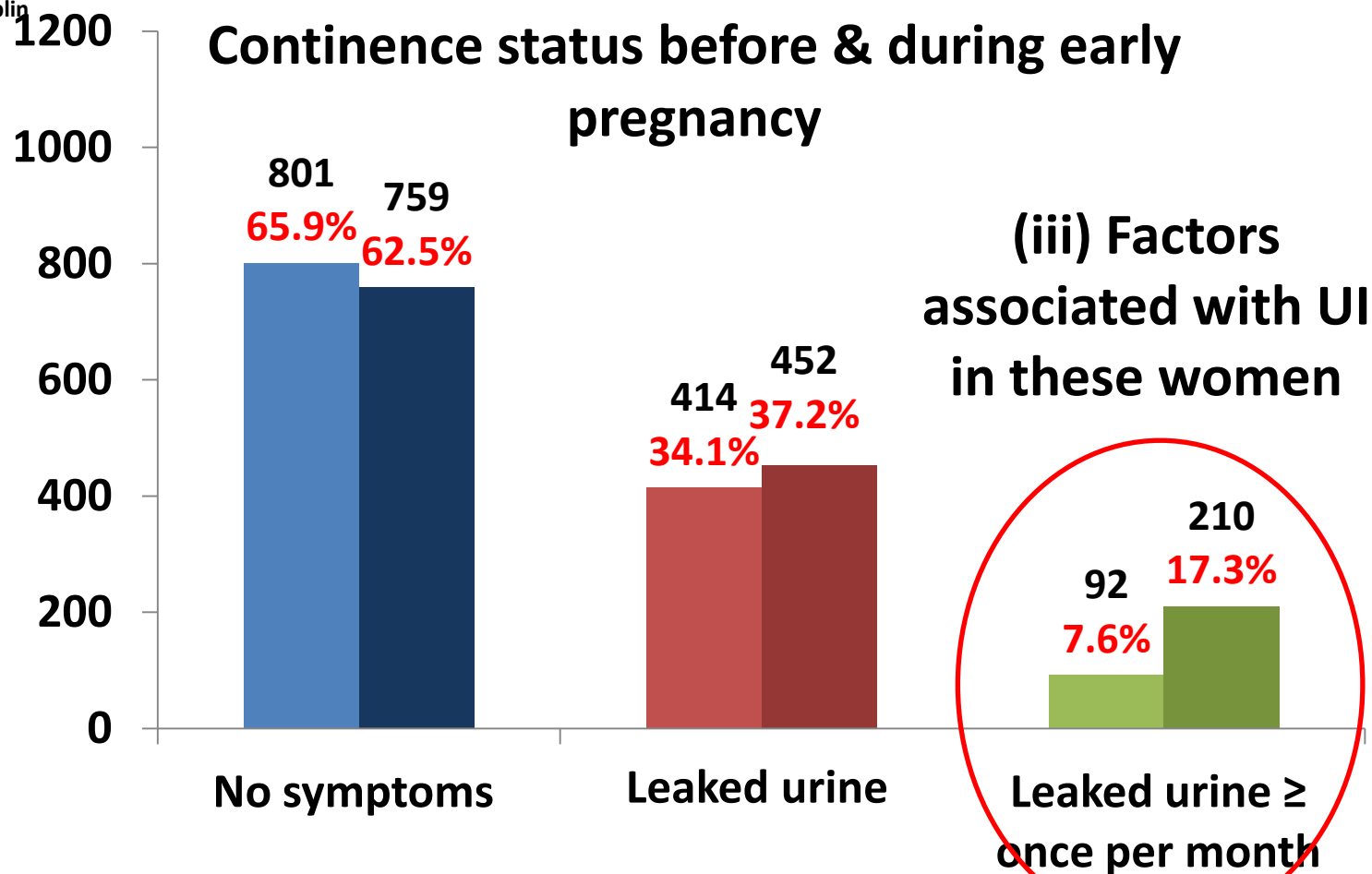
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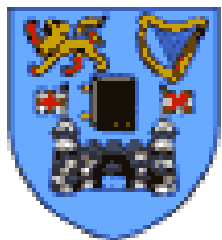




Continence status

Continence status before & during early pregnancy

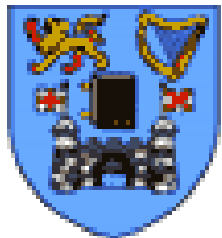




Factors assessed

Logistic regression

Variables	Reference category
Age categories (4 categories)	25-34 years
BMI categories (4 categories)	18.5-24.9 (kg/M ²)
Childhood enuresis	No
Anxiety before pregnancy	No
Depression before pregnancy	No
History of urinary tract infection	No

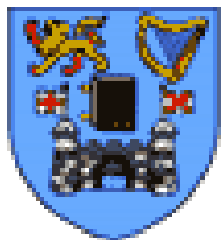


Factors associated with urinary incontinence before pregnancy

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Leaked urine at least once per month	12 months before pregnancy	
	92	7.6%

Variable	<i>p</i> -value	Unadjusted odds ratio	95% CI
Age ≥40 years	0.042	2.4	1.03-5.68
BMI ≥30kg/M ²	0.006	2.5	1.3-4.86
Childhood enuresis	<0.005	3.2	2.03-4.93
There was no significant association with other factors assessed			

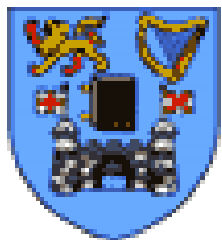


Factors associated with new urinary incontinence during early pregnancy

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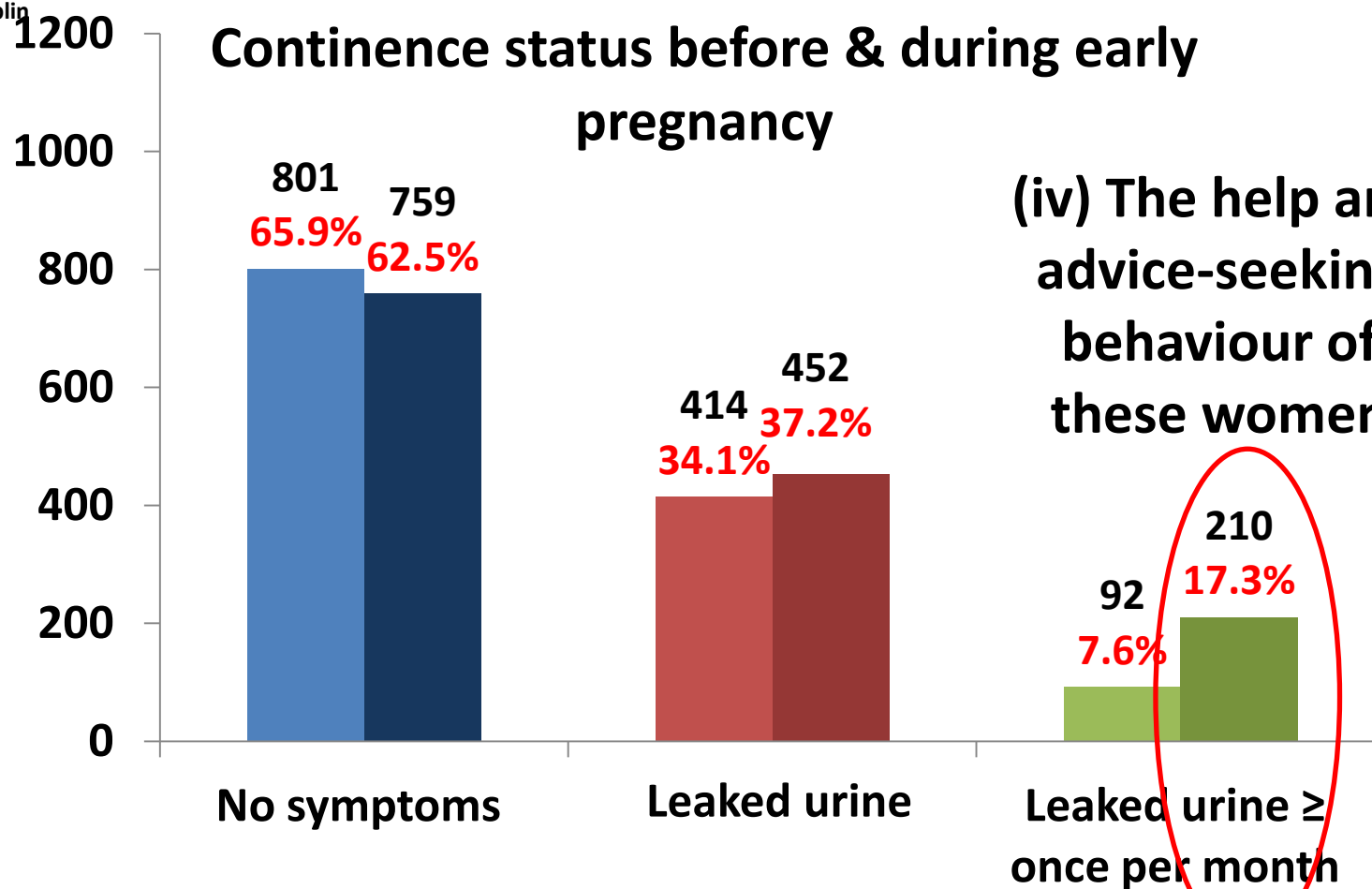
Leaked urine at least once per month	New urinary incontinence during early pregnancy	
	153	13.6%

Variable	<i>p</i> -value	Unadjusted odds ratio	95% CI
Age 35-39 years	0.002	1.88	1.27-2.79
Age ≥40 years	0.003	3.20	1.49-6.98
BMI ≥25kg/M ²	0.022	1.66	1.07-2.57
Leaked urine <once per month before pregnancy	<0.005	2.46	1.74-3.49

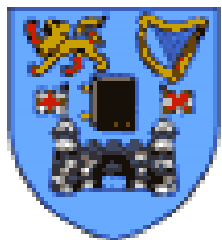


Continence status

Continence status before & during early pregnancy



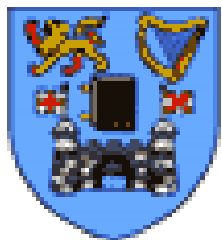
(iv) The help and advice-seeking behaviour of these women



Managing urinary incontinence in early pregnancy

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Which of the following best describes how you manage this	n=197/210	
	n	%
Minor problem – I ignore it	75	35.7
Carry a change of underwear and change whenever I need	11	5.2
Wear protection whenever I need to	39	18.6
Know where the nearest toilet is all the time	17	8.1
Wear protection all the time	46	21.9
Other	9	4.3



Help and advice-seeking behaviour

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	During early pregnancy		Have you talked to a doctor, midwife or other healthcare professional?
	n = 1214	%	
Yes	210	17.3%	

The help and advice-seeking behaviour women with UI at least once per month during pregnancy

Study No

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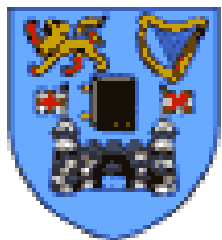
Survey Booklet One: Antenatal **1**

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Survey 1
Antenatal
First booking visit



Help and advice-seeking behaviour

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	During early pregnancy		Have you talked to a doctor, midwife or other healthcare professional?
	n = 1214	%	
Yes	210	17.3%	15.2% (n=32) <ul style="list-style-type: none">• Doctor (hospital) (n=6)• GP (n=9)• Midwife (n=10)• Other (n=6)

The help and advice-seeking behaviour women with UI at least once per month during pregnancy

What women said about urinary incontinence during early pregnancy

**Women who reported
leaking urine at least once
per month (n=210)**

**Recurring themes from 123
qualitative comments**



What women said about urinary incontinence during early pregnancy

**Women who reported
leaking urine at least once
per month (n=210)**

**Recurring themes from 123
qualitative comments**

It's not a problem (28)

It's part of pregnancy (21)

It's minor (11)

It's not a major problem (19)

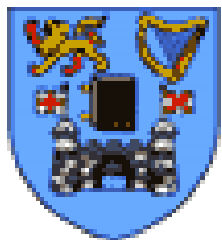
It's not important (8)

It's not a concern (6)

It's not serious (4)

I will talk about it now (3)

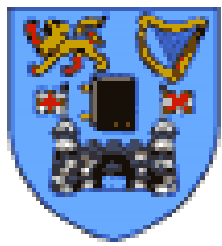




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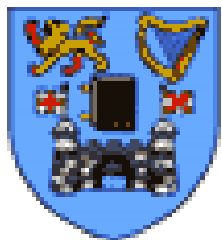
This information is important because...

- 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)



This is relevant because...

- Opportunities for continence promotion during early pregnancy are being lost
 - Whilst UI remain undisclosed and not discussed women who could become continent will continue to be incontinent
- 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



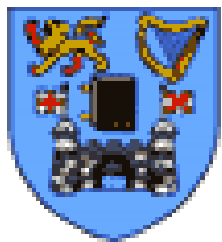
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Conclusion and key message

**Urinary incontinence is common but it not normal
and can be treated**

**Women who have urinary incontinence can
become continent**

**...but the process must start with discussion and
enabling disclosure**



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The MAMMI Study UI Strand

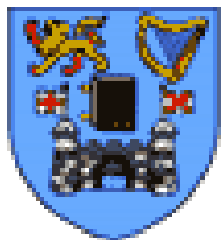
Thank you

**Thanks to the scientific committee for the
opportunity to present**

<http://www.mammi.ie/>

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The MAMMI Study UI Strand

- **Future work**
 - **The MAMMI study** is ongoing
 - Sample size is 2,600 over three hospital sites
(3rd site commencing in September 2014 - Research Ethics Committee approval granted)
 - Detailed analyses are required before the complexities of urinary incontinence are truly understood and all significant associations are ascertained
 - Only then can modifiable factors be identified

<http://www.mammi.ie/>