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UKMidSS Severe Obesity Study

Birth outcomes for women with a BMI over 35 and looked after in alongside midwifery units

Results of the UKMidSS Severe Obesity Study

UKMidSS

UK Midwifery Study System

Thank you!


All our amazing UKMidSS reporters!

PLOS ONE

RESEARCH ARTICLE

Outcomes for women with BMI>35kg/m^2 admitted for labour care to alongside midwifery units in the UK: A national prospective cohort study using the UK Midwifery Study System (UKMidSS)

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¶ Membership of the UKMidSS Steering Group is provided in the Acknowledgments
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Data Availability Statement: The UKMidSS Severe Obesity dataset used for this study cannot be made publicly available because it contains information which could identify participating centres, raising confidentiality issues. Requests for access to the dataset underlying our findings will be considered by the National Perinatal Epidemiology Unit Data Sharing Committee and should be addressed to ukmidss@npeu.ox.ac.uk in the first instance.

Abstract

Objective

To describe and compare outcomes in severely obese (body mass index (BMI)>35kg/m^2) women and other women admitted to alongside (co-located) midwifery units (AMU) in the United Kingdom.

Methods

We carried out a national prospective cohort study using the UK Midwifery Study System (UKMidSS) in all 122 AMUs in the UK. We identified and collected data about 1122 severely obese women admitted to an AMU, 1st January-31st December 2016, and 1949 comparison women (BMI≤35kg/m^2), matched on time of admission, and used Poisson regression to calculate relative risks adjusted for maternal characteristics.

Results

92% of the severely obese cohort had BMI 35.1-40kg/m^2. Severely obese multiparous women were no more likely than comparison women to experience the composite primary outcome (one or more of: augmentation, instrumental birth, Caesarean, maternal blood transfusion, 3rd/4th degree tear, maternal admission to higher level care) (5.6% vs. 8.1%, aRR = 0.68, 95% CI 0.44–1.07). For severely obese nulliparous women we found a non-significant 14% increased risk of the primary outcome (37.6% vs 34.8%, aRR = 1.14, 95% CI 0.97–1.33). High proportions of severely obese women had a 'straightforward vaginal birth' (nulliparous 67.9%; multiparous 96.3%). Severely obese women were more likely than comparison women to have an intrapartum Caesarean section, but Caesarean section rates were low and the absolute difference small (4.7% vs 4.1%; aRR = 1.62; 95% CI 1.02–2.57). In nulliparous women, severely obese women were more likely to have an urgent

BMI over 35 and thinking about birth in an Alongside Midwifery Unit?

UKMidSS
UK Midwifery Study System

Information from a national research study

An Alongside Midwifery Unit (AMU) might be called a birth centre where you live. AMUs are in a hospital where there is also a labour ward or delivery suite

Talk to your midwife and make a care plan that suits you. An AMU birth might not be best for everyone. If your BMI is over 40 these results might not apply to you.

Had a baby before?

For women with a BMI over 35 who have given birth before and are otherwise healthy, planning birth in an **Alongside Midwifery Unit (AMU)** can be just as safe as for women with a lower BMI

Having your first baby?

Women with a BMI over 35 having their first baby are **more likely** than women with a lower BMI in the AMU to have:

- an urgent Caesarean birth

12 out of 100 women with a **BMI over 35** had an urgent Caesarean

6 out of 100 women with a **lower BMI** had an urgent Caesarean

- a severe bleed after birth

5 out of 100 women with a **BMI over 35** had a severe bleed after birth

2 out of 100 women with a **lower BMI** had a severe bleed after birth

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Your Body Mass Index, or BMI, is one of the things your health care team will take into account when they give you advice about where to have your baby

This information is based on a national research study carried out in all 122 Alongside Midwifery Units (AMUs) in the UK, over 12 months, by the UKMidSS team at the University of Oxford

What we did?

- We collected information about all women with a BMI over 35 who received labour in these AMUs (1122 women in total)
- We compared what happened to these women and their babies with a group of 1949 women with a lower BMI in the same AMUs
- The **main outcome** we looked at was whether the women experienced one or more of the following:
  - Needing labour to be speeded up with a drip
  - Birth with forceps or ventouse, or a Caesarean
  - A severe tear after birth
  - A blood transfusion after birth
  - Needing intensive care after birth
- We also looked at whether women needed an *urgent* Caesarean or had a severe bleed after birth

What we found?

Almost all of the women with a BMI over 35 in our study had a BMI between 35 and 40. This means that our results can't be used to advise women with a BMI over 40

For women with a BMI over 35 who had given birth before, there were **no differences** in our main outcome or any of the other outcomes we looked at compared with women with a lower BMI who had given birth before

6 out of 100 women with a **BMI over 35** had one or more of the features of our main outcome

8 out 100 women with a **lower BMI** had one or more of the features of our main outcome

Very few women who had given birth before had a Caesarean:

Just over **1** out of 100 women with a **BMI over 35** had a Caesarean

Just less than **1** out of 100 women with a **lower BMI** had a Caesarean

More women with BMI over 35 who were having their first baby had one or more of the components of our main outcome, compared with women with lower BMI. Because of the small numbers of women with BMI over 35 who were having their first baby in our study we can't be certain if this is a true difference or just due to chance

38 out of 100 women with a **BMI over 35** had one or more of the features of our main outcome

35 out of 100 with a **lower BMI** had one or more of the features of our main outcome

Overall, women with BMI over 35 were more likely to have a Caesarean birth, but the chances of this happening were low

5 out of 100 women with a **BMI over 35** had a Caesarean

4 out of 100 women with a **lower BMI** had a Caesarean

Rowe R, Knight M, Kurinczuk JJ, and on behalf of the UK Midwifery Study System (UKMidSS). Outcomes for women with BMI>35kg/m² admitted for labour care to alongside midwifery units in the UK: a national prospective cohort study using the UK Midwifery Study System (UKMidSS). PlosOne https://doi.org/10.1371/journal.pone.0208041

UKMidSS UK Midwifery Study System
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Overview

- Why we did this study
- What we did
- What we found
- What it means

Obesity in pregnancy

- Prevalence increasing
  - Almost 1 in 10 pregnancy women have a BMI over 35kg/m^2
- Increased risk of adverse outcome
- NICE recommends planned birth in obstetric unit (OU) for women with BMI over 35

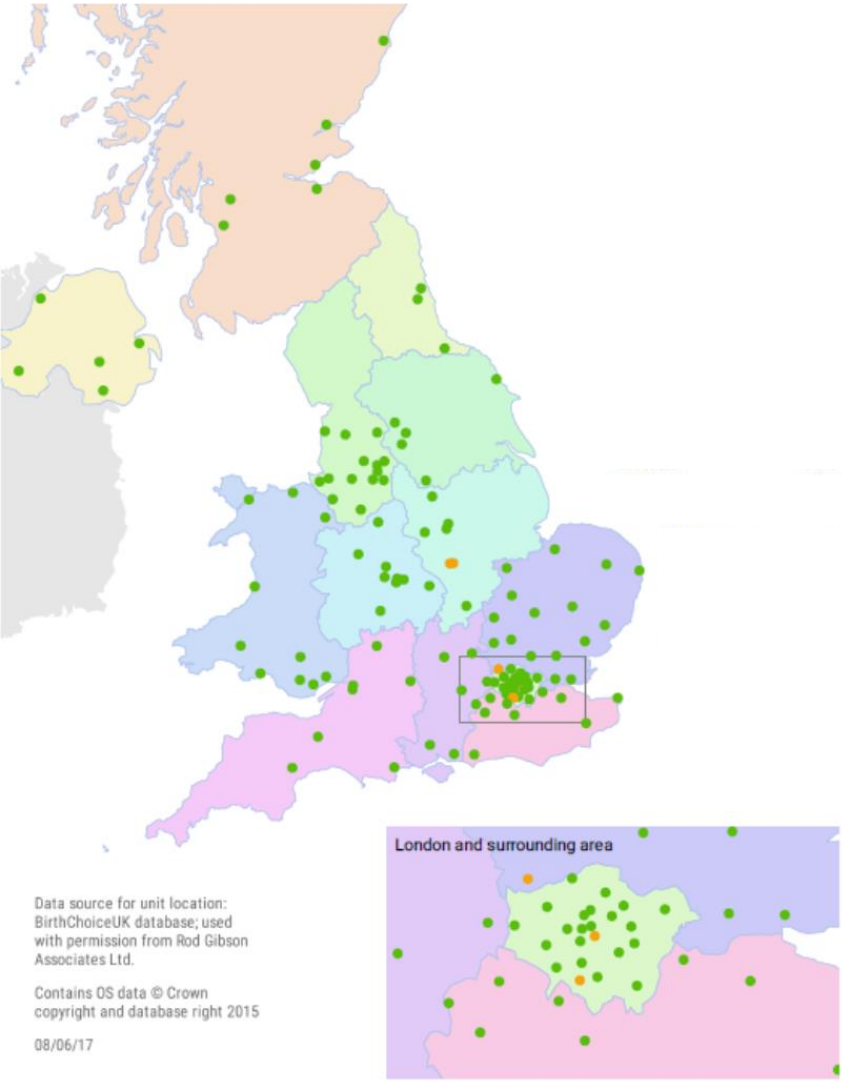
But…

- Planned birth in OU increases chances of having intervention
- ‘Otherwise healthy’ multiparous obese women have lower intrapartum-related risks than nulliparous women of normal weight (Hollowell et al. 2013)

Aims

- To investigate outcomes for women with a booking BMI over 35, admitted for labour care to alongside midwifery units (AMUs)
  - Compare with women with a lower BMI admitted to AMUs
- To describe practice across the UK
  - How many AMUs admit severely obese women?
  - What are the characteristics of these women?

Methods



- National cohort study

UKMidSS
UK Midwifery Study System

- 1st January – 31st December 2016

Outcomes

Main outcome

Maternal outcome indicating need for obstetric care

Combining any of:

- Augmentation with syntocinon
- Instrumental / Caesarean
- Maternal blood transfusion
- 3rd/4th degree tear
- Maternal admission to HDU/ITU

Secondary outcomes

- Transfer to OU during labour or after birth
- Shoulder dystocia
- Immersion in water during labour
- Birth in water
- Mode of birth
- Category 1 or 2 Caesarean
- EBL≥1500ml
- Apgar<7 at 5 minutes
- Neonatal unit admission

Demographic and other data

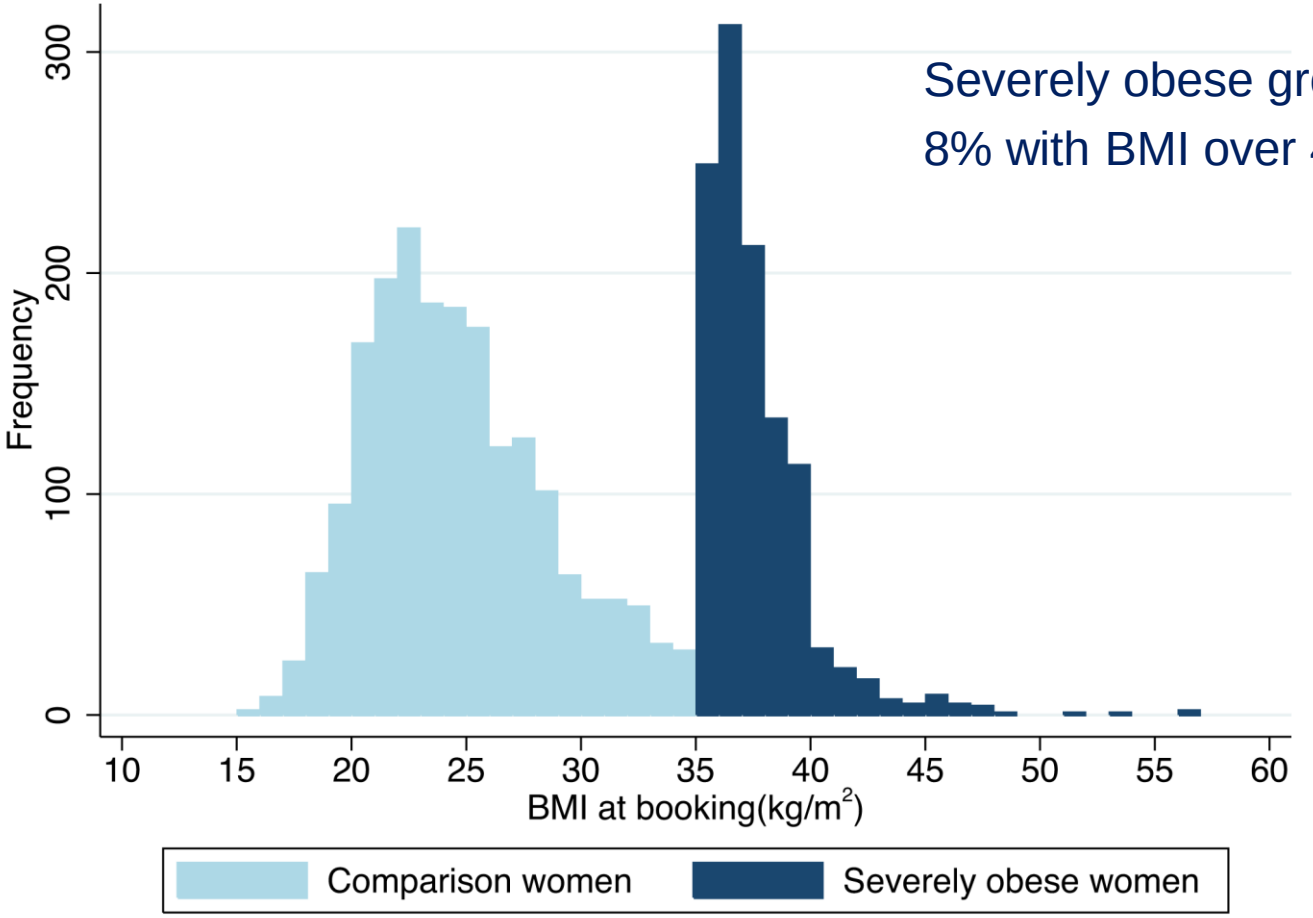
- Maternal age
- Ethnic group
- Area deprivation
  - Children in Low-income Families Measure
- Socio-economic status
  - National Statistics Socio-economic Classification derived from woman's (or partner's occupation)
- Gestation at admission
- Parity
- 'Risk status'
  - Based on NICE guidance

Results

Response and ‘cases’

- All 122 AMUs across UK contributed data
- 99% response to monthly reporting
- 1122 confirmed severely obese women
  - 312 (28% nulliparous)
- 1949 comparison women
  - 890 (46% nulliparous)
- 91 (75%) of units admitted at least one severely obese woman

Body Mass Index



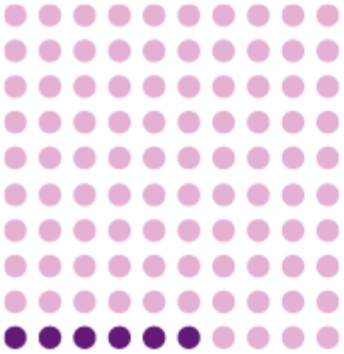
Severely obese group:
8% with BMI over 40

Main outcome

Adverse maternal outcome indicating need for obstetric care

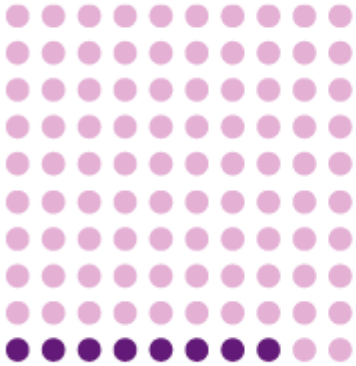
For women with a BMI over 35 who had given birth before, there were **no differences** compared with women with a lower BMI

over 35



6

Lower



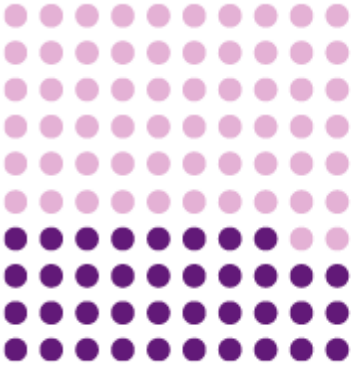
8

Main outcome

Adverse maternal outcome indicating need for obstetric care

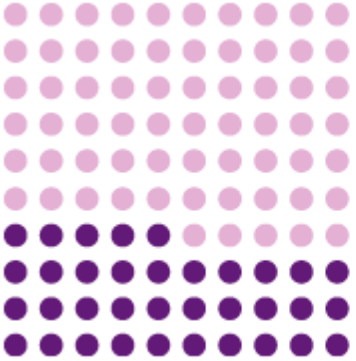
More women with a BMI over 35 who were having their first baby, had one or more of the components of our main outcome, compared with women with a lower BMI

over 35



38

Lower



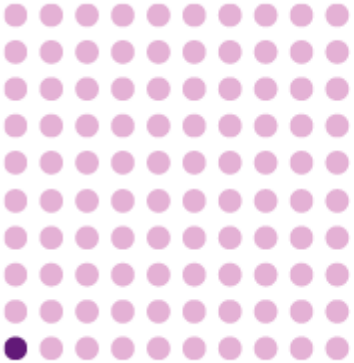
35

Other outcomes

No difference between women with a BMI over 35 and women with a lower BMI **for any outcomes**

Caesarean section

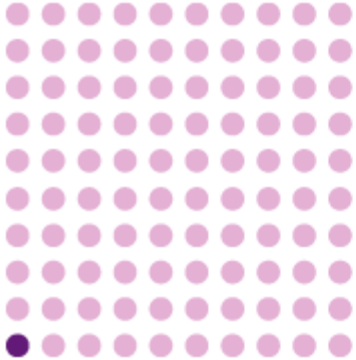
BMI over 35



Just over

1

Lower BMI



Just less than

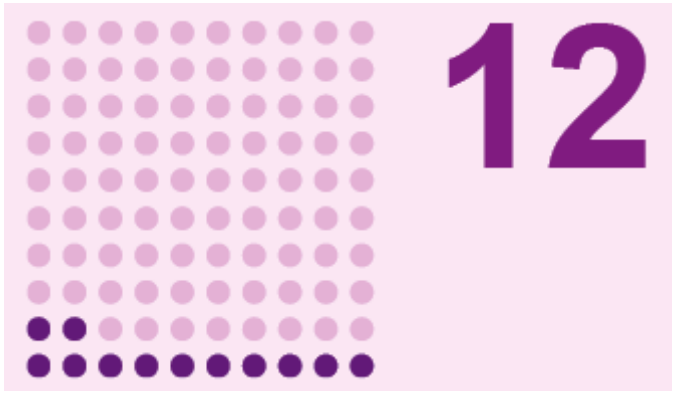
1

Other outcomes

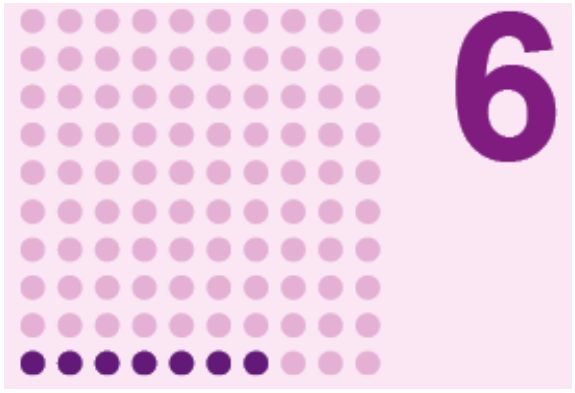
Women with a BMI over 35 having their first baby were more likely than women with a lower BMI to have:

An urgent Caesarean section

BMI over 35



Lower BMI



Other outcomes

Women with a BMI over 35 having their first baby were more likely than women with a lower BMI to have:

A severe bleed (at least 1500ml) after birth

BMI over 35

Lower BMI

Selected secondary outcomes

- In severely obese women, by parity

Outcome	Nulliparous	Multiparous
Transfer to OU during labour / after birth	48%	15%
Shoulder dystocia	1.0%	1.5%
Spontaneous vaginal birth	72%	97%
5 minute Apgar <7	1.9%	0.5%
Neonatal unit admission	3.9%	2.4%

Summary

- Admission of severely obese women to AMUs is widespread in the UK
  - Evidence of 'selection' – BMI 35-40kg/m^2
  - **Results can't be used to advise women with a BMI over 40**
- For women with a BMI over 35 who have given birth before, no differences in any outcomes compared with women with a lower BMI

Summary

- High proportions of severely obese women with spontaneous vaginal birth
- Increased chance of intrapartum Caesarean section overall, but...
  - Rates low and absolute differences small
- In nulliparous women:
  - Increased chance of more urgent Caesarean
  - Increased chance of PPH>1500ml

Implications

- Selected severely obese women, particularly those who have given birth before, can safely plan birth in an AMU
- Inform AMU admission criteria, women's decision-making and care planning
- Improve women's experience and outcomes

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Thank you!
Your questions and thoughts?

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