A NON-SYSTEMATIC REVIEW OF MATERNAL OBESITY AND PREGNANCY-RELATED DEATH

Goh, K.L.,
Advisor: Professor Rusli bin Nordin
Malaysians most obese in region

13.3% obese
38.5% overweight

Is maternal obesity merely a cosmetic issue?

http://zeenews.india.com/tags/maternal-obesity.html
30% Maternal deaths worldwide

~Royal College of Obstetric & Gynecology
Maternal Obesity

Maternal morbidity

Maternal mortality
According to Royal College of Obstetric & Gynecology, [1]

Maternal obesity is defined as Body Mass Index (BMI) of 30kg/m² or more at the first antenatal visit.

- Class I: BMI 30.0 - 34.9
- Class II: BMI 35.0 - 39.9
- Class III: BMI 40.0 and over
Pregnancy-Related Death (PRD) is defined as death of a woman during pregnancy or within one year postpartum, irrespective of the outcome, duration or site of pregnancy; and the death could be from any cause related to or provoked by physiological changes in pregnancy or its management, but not from accidental or incidental causes.
Search Process

- Databases searches
- Maternal obesity
- Pregnancy related death
- Limited to English
- Limited last 5 years
- N=22
Results and discussion
4 main causes of maternal deaths [2.5]

1. Cardiovascular disease
2. Pre-eclampsia or eclampsia haemorrhage
3. Venous thromboembolism
Maternal Obesity and Cardiovascular Disease [5]

- Relative risk of 3.3
- 190% more likely to die at delivery
- Hospitalization
- Pre-gestational diabetes
- Pregnancy induced hypertension
- Normal BMI
In patients with high Body Mass Index,

- 5.5% were diabetic
- 19.3% were hypertensive
- 2.5% had both

In 10.5% of PRD

- 27.5% had PIH
- 13% had cardiovascular disorders
- 4.3% had diabetes
In Malaysia,

- Pregnancy-Induced Hypertension (PIH) including preeclampsia had contributed to about 18.1% of maternal death in Malaysia (Kaur & Singh, 2011).
- The most common causes of maternal death
- PIH was accounted for 14.2% of the 966 maternal deaths between 1997-2000
- Preeclampsia was accounted for 4.1% cases in Malaysia (Ng, 2005).
- In the year 2007, HDP including preeclampsia had contributed to about 18.1% of maternal death in Malaysia (Kaur & Singh, 2011).
Obstructive Sleep Apnoea (OSA) and Pregnancy-Related Death (PRD) [7]

- Increase the risk of maternal sudden death or severe maternal morbidity during delivery hospitalization

Image credit to https://aeroflowinc.com/link-between-pregnancy-and-sleep-apnea-2/
UK Confidential Enquires into Maternal Deaths and Morbidity 2009-2012
- 27% of PRD in UK were obese
- Most frequent direct cause: Thromboembolism
- Most frequent indirect cause: Cardiovascular diseases
Obese patients in parts of U.K. told to lose weight before receiving non-urgent surgery.

- 4.87% of maternal outcome were PRD
- Incidence of VTE within six weeks is 3-7 per 10,000 deliveries
- Obesity and pregnancy both create a pro-inflammatory and pro-thrombotic environment
- Risk of abnormal clotting events and risk of maternal death increased
- No clear explanation for the interaction between maternal obesity and prothrombin environment
Ultrasound study of gestational and postural changes in the deep venous system of pregnant women’s legs

→ Increase in vessel diameter
→ Reduction in flow velocity was observed
The most common organism that causes maternal death from sepsis in the United Kingdom is Group A Streptococcal Infection [8]

The most common causes of maternal mortality in Sub-Saharan Africa (30.9%) [9]

Obesity is a known state of immunocompromised although the mechanism behind this relationship is unknown [8]
Nestlé Nutrition Institute

Welcome, what are you looking for?

Maternal Obesity And Diabetes In Pregnancy Results In Early Overgrowth Of Baby In The Womb
Jun 13, 2016

What’s killing America’s new mot

Rising Obesity Among Women Worries Experts, But No Solutions in Sight
Conclusion

This study highlights maternal obesity contributes to increase in pregnancy-related deaths.

Strategies to optimize weight before pregnancy and to increase the public awareness are urgently needed!
The Hand that Rocks the Cradle is the hand that Rules the World
Thank you!
References


