

# **TATALAKSANA OBESITAS DALAM KEHAMILAN - Belajar dari Kegagalan *Program Healthy People 2000* di Amerika Serikat**

**Hermanto TJ  
Surabaya  
Disampaikan di  
Makasar 27 Ag 16**



- **.....for the first time in history, the life span of parents may well exceed that of their children...( The Battle Against Childhood Obesity Has To Start In Pregnancy. [Neena Modi](#) the Guardian 2015)**

[Live Science](#) > [Human Nature](#)

# Taller, Fatter, Older: How Humans Have Changed in 100 Years

By Agata Blaszczyk-Boxe, Live Science Contributor | July 21, 2014 08:58am ET



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## Science News

*from research organization.*

# We now live in a world in which more people are obese than underweight, major global analysis reveals

*Date:* April 1, 2016

# **Kegagalan Amerika Serikat**

- By 1991, approximately a third of adults in the United States were overweight, and thus a stated goal of Healthy People 2000 was to reduce the prevalence of overweight people to 20 percent or less by the end of the 20th century (Public Health Service, 1990).**
- Not only was this goal not achieved, but by 2000, more than half of the population was overweight. In 2010, a third of all adults were obese**

# Sudah Menyerah?

## State obesity rates could skyrocket by 2030

by Nanci Hellmich, USA TODAY

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Office of Communications  
tel: 202-484-3321  
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Obesity Medicine Certification Exam: Deadline August 30

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2016 American Board of Obesity Medicine  
Certification Exam: Deadline August 30

Women

### The big beauty contest

For the contestants at Burger Queen, fat is still a feminist issue

### Ob-Gyns Continue to Fight Obesity Epidemic, Promote Exercise During Pregnancy and the Postpartum Period

November 23, 2015



ANDREA PEYSER

NEWS

## Being fat helped me find happiness

By Andrea Peyser

# **Losing the War Against Obesity: The Need for a Developmental Perspective**

**Peter D. Gluckman,<sup>1,2\*</sup> Mark Hanson,<sup>3</sup> Paul Zimmet,<sup>4</sup> Terrence Forrester<sup>5</sup>**

**Cunningham: By 1991, approximately a third of adults in the United States were overweight, and thus a stated goal of Healthy People 2000 was to reduce the prevalence of overweight people to 20 percent or less by the end of the 20th century. Not only was this goal not achieved, but by 2000, more than half of the population was overweight. In 2010, a third of all adults were obese**

# The battle against childhood obesity has to start in pregnancy

Neena Modi

Britain's childhood obesity rate is, as Jeremy Hunt calls it, **a scandal**, but there has not been enough recognition of how early the problem begins

Thursday 28 May 2015 13.16 BST

**fight against obesity?: the importance of intervention in women of childbearing age**

R L Atkinson, A Pietrobelli, R Uauy and I A Macdonald

**The dramatic rise in the worldwide prevalence of obesity that began in 1980 has slowed, but the initial optimism that public health measures adopted by governments and health organizations would reverse this epidemic has faded. In many countries, the prevalence of obesity continues to rise, albeit slowly, and most discouragingly, the rates of childhood obesity have not fallen.**

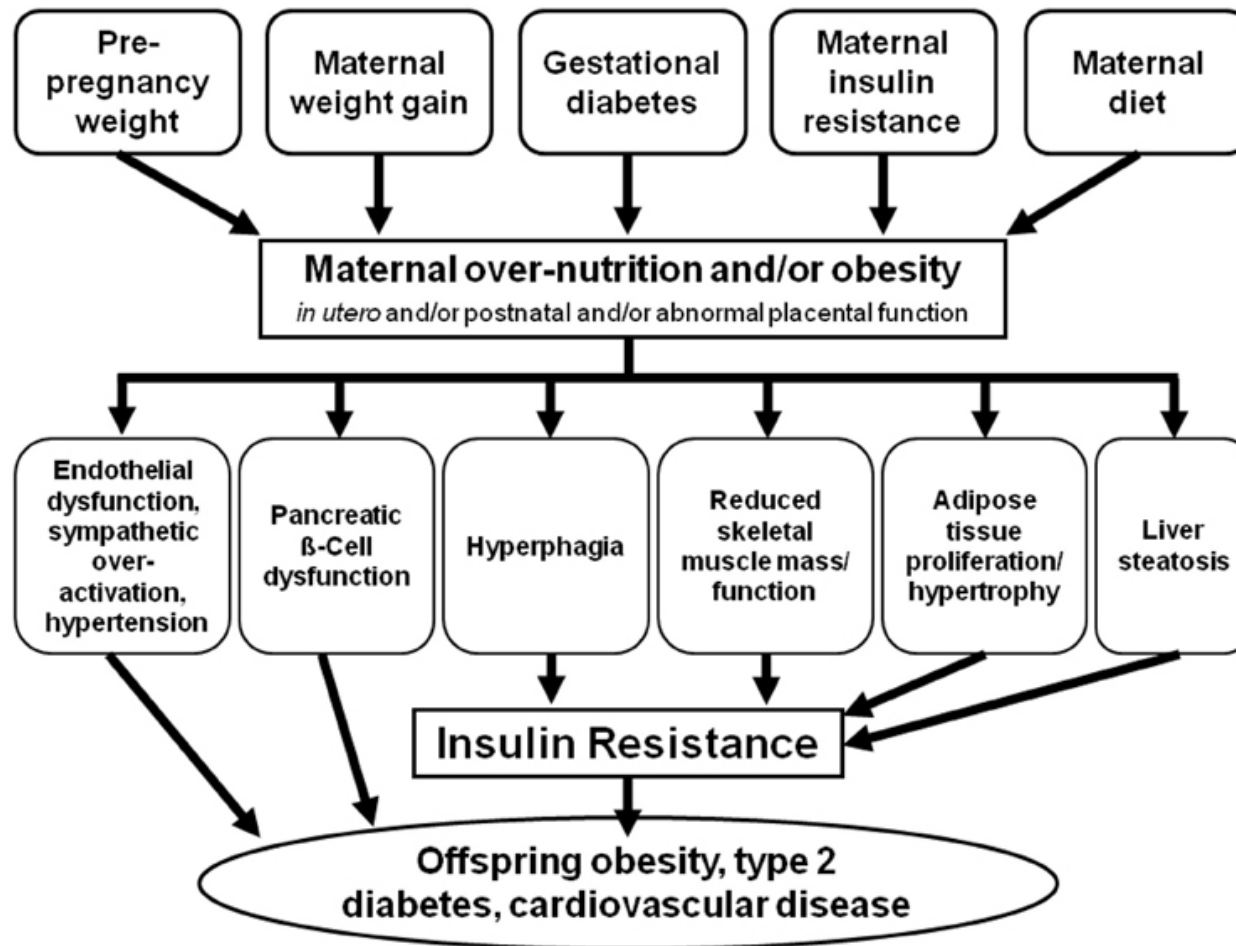
# BATASAN dan KLASIFIKASI

- a normal BMI is 18.5 to 24.9 kg/m<sup>2</sup> ;
- overweight is a BMI of 25 to 29.9 kg/m<sup>2</sup>
- obesity is a BMI of 30 kg/m<sup>2</sup> or greater
  - class I (BMI: 30 to 34.9 kg/m<sup>2</sup> )
  - class II (BMI: 35 to 39.9 kg/m<sup>2</sup> )
  - and class III (BMI: 40-plus kg/m<sup>2</sup> )
  - Indonesia: 26 kg/m<sup>2</sup>?????

## **BMI Sebelum Hamil Atau Trimester 3 Catalano – Protocol 27 : Obesitas**

- ...weight gain during pregnancy is a significant contributor to obesity-related morbidities during pregnancy.**
- Institute of Medicine 'Weight Gain during Pregnancy: reexamining the Guidelines': high maternal weight gain in pregnancy is associated with an increased risk of maternal cesarean delivery and postpartum weight retention.**
- high gestational weight gain is associated with an increased risk of large for gestational age infants, particularly in non-obese women**

# Patofisiologi saat hamil: chronic inflammation?



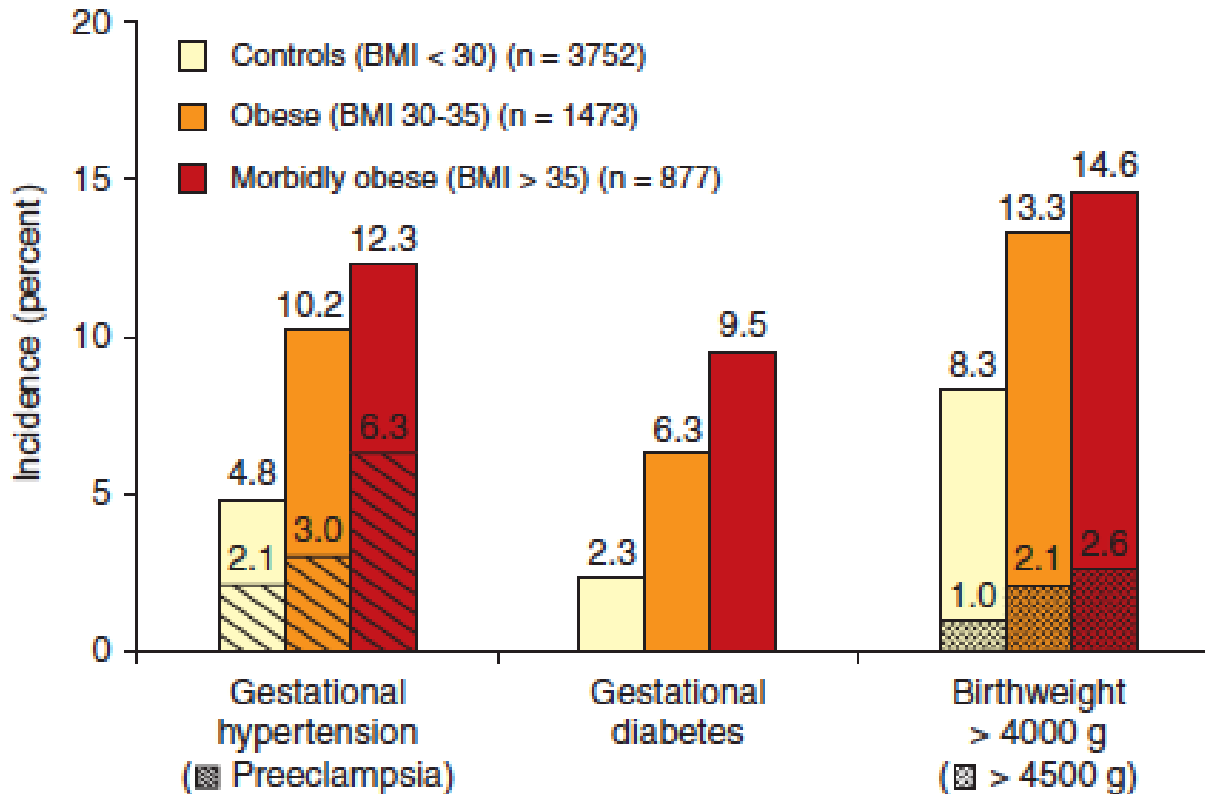
# Obesitas Vs Kespro – Cunningham et al 2014

- implantation, pregnancy, and live-birth rates were progressively and significantly reduced with each unit of maternal BMI.
- obesity is associated with increased risk of first trimester and recurrent miscarriage.
- increased and interrelated adverse perinatal outcomes.
- Marked obesity is **unequivocally hazardous to the pregnant woman and her fetus**

# Luaran Maternal

| Complication                | Prevalence (%)<br>in Women with<br>Normal BMI<br>20-24.9<br>n = 176,923 | Increased Complications<br>(Odds Ratio <sup>a</sup> ) |                                 |
|-----------------------------|---|---|---------------------------------|
|                             |   | Overweight<br>BMI 25-29.9<br>n = 79,014               | Obese<br>BMI > 30<br>n = 31,276 |
| Gestational diabetes        | 0.8   | 1.7-3.5   | 3.0-3.6                         |
| Preeclampsia                | 0.7   | 1.5-1.9   | 2.1                             |
| Postterm pregnancy          | 0.13  | 1.2 <sup>b</sup>                                      | 1.7                             |
| Emergency cesarean delivery | 7.8   | 1.3-1.4   | 1.7-1.8                         |
| Elective cesarean delivery  | 4.0   | 1.2   | 1.3-1.4                         |
| Postpartum hemorrhage       | 10.4  | 1.04-1.2  | 1.0-1.4                         |
| Pelvic infection            | 0.7   | 1.2   | 1.3                             |
| Urinary tract infection     | 0.7   | 1.2   | 1.4                             |
| Wound infection             | 0.4   | 1.3   | 2.2                             |
| Fetal macrosomia            | 9.0   | 1.6   | 2.4                             |
| Stillbirth                  | 0.4   | 1.4   | 1.4-1.6                         |
| Thrombosis                  | —   | 1.6   | 0.97 <sup>b</sup>               |

# Luaran maternal menurut BMI



# Up to date 2016

| <b>Outcome</b>                         | <b>Control (n = 13,752), percent</b> | <b>Obese (n = 1473), percent</b> | <b>Morbidly obese (n = 877), percent</b> |
|--|--------------------------------------|----------------------------------|--|
| Gestational hypertension               | 4.8                                  | 10.2                             | 12.3                                     |
| Preeclampsia                           | 2.1                                  | 3.0                              | 6.3                                      |
| Gestational diabetes                   | 2.3                                  | 6.3                              | 9.5                                      |
| Preterm premature rupture of membranes | 1.7                                  | 2.1                              | 2.2                                      |
| Preterm delivery                       | 3.3                                  | 4.0                              | 5.5                                      |
| Fetal growth restriction               | 1.1                                  | 1.0                              | 0.8                                      |
| Birth weight >4000 g                   | 8.3                                  | 13.3                             | 14.6                                     |
| Birth weight >4500 g                   | 1.0                                  | 2.1                              | 2.6                                      |
| Placenta previa                        | 0.6                                  | 0.8                              | 0.5                                      |
| Placental abruption                    | 0.8                                  | 0.8                              | 0.8                                      |
| Operative vaginal delivery             | 10.5                                 | 8.5                              | 11.1                                     |

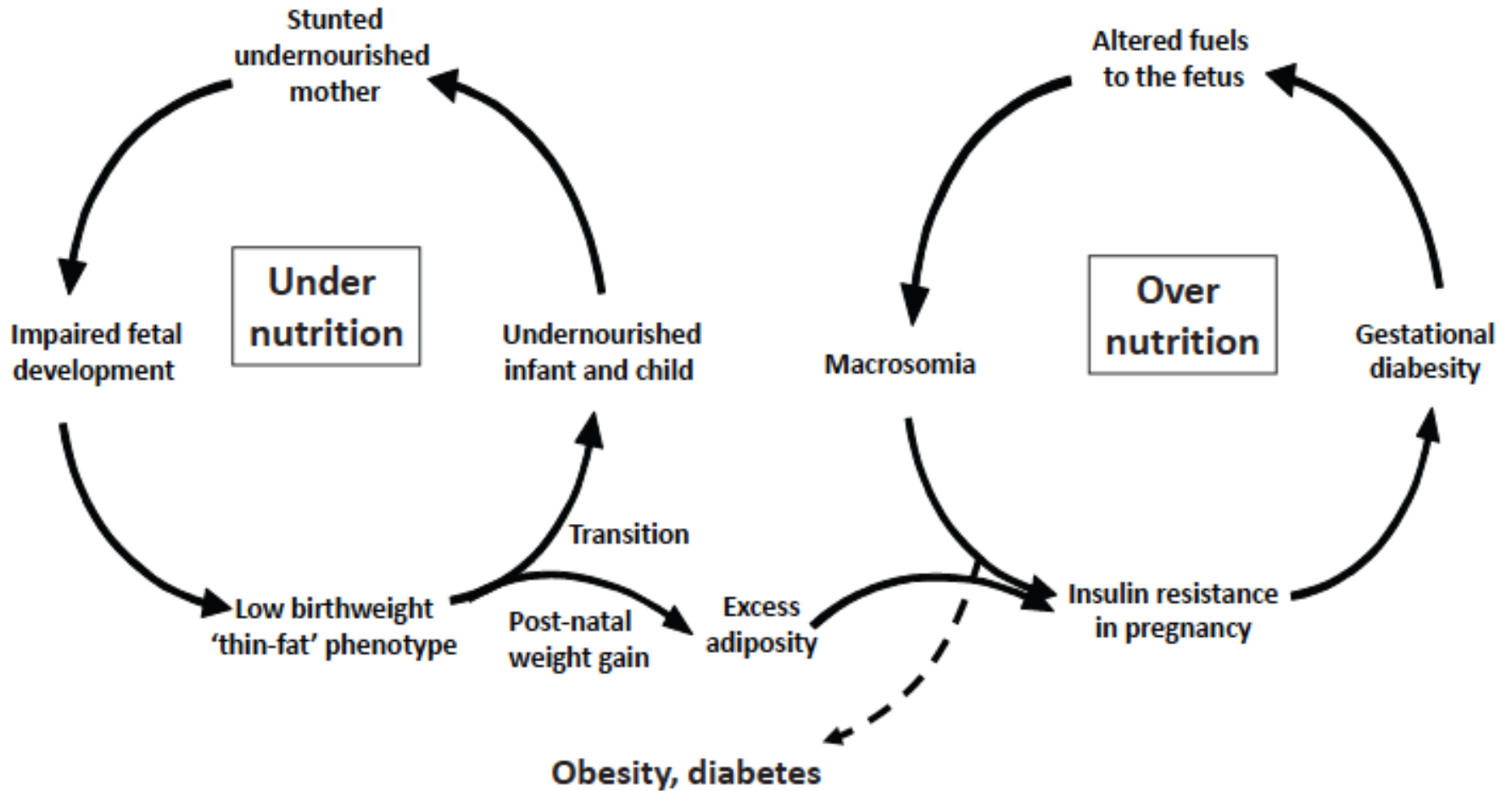
# Perinatal

- **a twofold increased incidence of neural-tube defects compared with that of control women.**
- **1.2-, 1.7-, and 3.1-fold increased risks in overweight, obese, and severely obese women compared with controls of normal weight**
- **A threefold increased incidence in omphalocele, heart defects, and multiple anomalies in obese women.**
- **Of appreciable concern are the many reports of unreliable fetal anatomy sonographic screening in obese gravidas**

# Makrosomia

- **prepregnancy BMI exhibits the strongest influence on the prevalence of these neonates.**
- **.. increased prevalence of macrosomic infants to the marked frequency of overweight or obese women in pregnancy—46.7 percent— compared with only 4 percent of pregnant women with diabetes.**

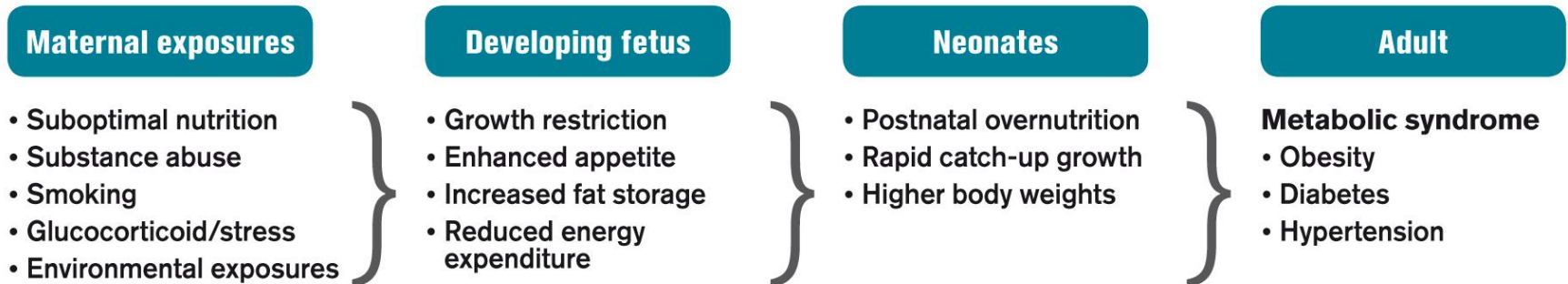
# Jangka Panjang



# FOAD

- **The science of epigenetics has provided some support for the possibility that perturbations of the maternal-fetal environment can adversely alter postdelivery events.**

# FOAD: Fetal Origins of Adult Diseases – DOHaD: Developmental Origins of Health and Diseases



Decreased maternal nutrition, substance abuse, and altered hormonal/metabolite milieu result in fetal growth restriction and low-birth-weight newborns who develop a “thrifty phenotype.” Specifically, they exhibit enhanced appetite, reduced satiety, increased fat cell proliferation, and increased propensity for fat storage. Overnutrition (eg, formula feeding, high-fat diets) during the postnatal period causes rapid catch-up growth, resulting in childhood and adult obesity. From Hales CN, et al.<sup>6</sup>

# Obese hamil dan ADHD n DM u si anak



The screenshot shows the ScienceNordic website header with a teal background. The logo is on the left, and navigation links for Health, Society & Culture, Environment, Technology, Agriculture & Fisheries, Natural Sciences, and Blogs are in the center. A 'RESEARCH & STUDY' button is on the right. Below the header, the article title 'Obesity during pregnancy puts children at risk of developing diabetes' is displayed in large black font. The date 'May 4, 2015 - 06:25' is on the left, and a 'Most read articles' link is on the right.

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## Obesity during pregnancy puts children at risk of developing diabetes

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The screenshot shows the U.S. News & World Report Health website header with a blue background. The logo is on the left, and navigation links for Home, Hospitals, Doctors, Health Insurance, Nursing Homes, Diets, and Health & Welln are in the center. Below the header, there is an advertisement for a U.S. Green Card in 1.5 years, requiring a \$500,000 investment and money back in 4.5 years.

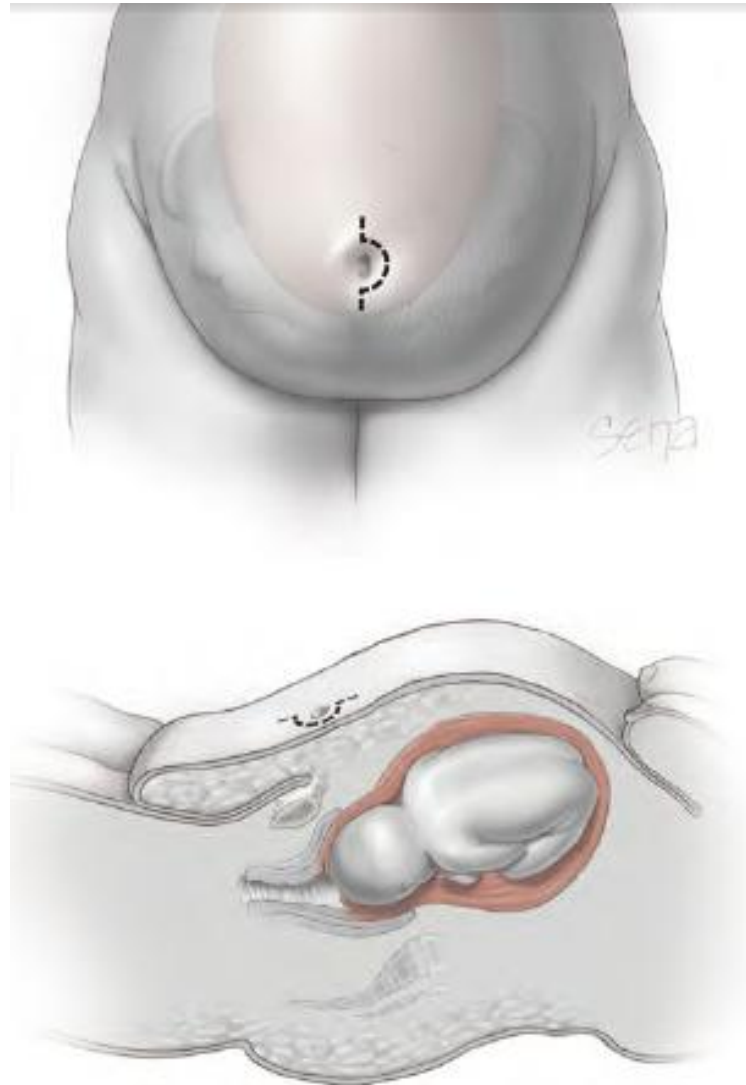
U.S. News & World Report HEALTH

Home Hospitals Doctors Health Insurance Nursing Homes Diets Health & Welln

**U.S. Green Card in 1.5 year**  
Requires a \$500,000 investment  
Money back in 4.5 years

## Moms' Pre-Pregnancy Obesity Tied to ADHD, Other Issues in Kids

# Insisi persalinan sesar



**Insisi metode Pfannenstiel/ Cohen Joel**

**Panikulus diperlakukan secara khusus – butuh tambahan asisten**

**Mobilisasi dini**

# **Heparinisasi dan Suplementasi ?**

- **Tanpa heparinisasi ternyata trombosis belum ditemukan di Surabaya**
- **CSI: Chronic Sytemic Inflammation - Suplementasi DHA**

# Manajemen

- **Prahamil – turunkan berat badan**
- **Hamil – supl DHA**
- **Persalinan – terminasi 38-39 minggu**
- **Postpartum – alkon IUD**

# Kontrasepsi

- **Lebih mudah gagal**
- **Kadar medroxyprogesterone acetate serum lebih rendah pada wanita dengan  $28 \text{ kg/m}^2$  dibanding BMI yang rendah**
- **Wanita dengan berat 70.5 kg atau lebih mempunyai risiko 1,6 x lebih tinggi untuk hamil dan bila digunakan pil dosis rendah maka 4-5 x lebih tinggi untuk hamil.**

# Surabaya: Luaran Maternal

| Maternal Outcomes       | ANC RSDS   | Non ANC RSDS | P value |
|-------------------------|------------|--------------|---------|
|                         | N (%)      | N (%)        |         |
| <b>Preeclampsia</b>     |            |              |         |
| Yes                     | 38 (25,9)  | 96 (59,6)    | 0,001   |
| No                      | 109 (74,1) | 65 (40,4)    |         |
| <b>Cesarean Section</b> |            |              |         |
| Yes                     | 89 (60,5)  | 95 (59)      | 0,874   |
| No                      | 58 (39,5)  | 66 (41)      |         |
| <b>Wound Infection</b>  |            |              |         |
| Yes                     | 1 (0,7)    | 2 (1,2)      | 0,534   |
| No                      | 146 (99,3) | 149 (98,8)   |         |
| <b>Length Of Stay</b>   |            |              |         |
| Yes                     | 21 (14,3)  | 50 (31,1)    | 0,001   |
| No                      | 126 (85,7) | 111 (68,9)   |         |

# Luaran Neonatal

| Perinatal Outcomes      | ANC RSDS   | Non ANC RSDS | P value |
|-------------------------|------------|--------------|---------|
|                         | N (%)      | N (%)        |         |
| <b>Low weight birth</b> |            |              |         |
| Yes                     | 34 (22,5)  | 61 (36,3)    | 0,01*   |
| No                      | 117 (77,5) | 107 (63,7)   |         |
| <b>Asphyxia</b>         |            |              |         |
| Yes                     | 21 (13,9)  | 60 (35,7)    | 0,001*  |
| No                      | 130 (86,1) | 108 (64,3)   |         |
| <b>Macrosomia</b>       |            |              |         |
| Yes                     | 5 (3,3)    | 9 (5,4)      | 0,537   |
| No                      | 146 (96,7) | 159 (94,6)   |         |
| <b>IUFD</b>             |            |              |         |
| Yes                     | 1 (0,7)    | 8 (4,8)      | 0,027*  |
| No                      | 150 (99,3) | 160 (95,2)   |         |

# Obesitas

| Karakteristik maternal | IMT Obesitas n(%) |                  |                  |
|------------------------|-------------------|------------------|------------------|
|                        | Grade I n = 150   | Grade II n = 105 | Grade III n = 42 |
| Usia Ibu (tahun):      |                   |                  |                  |
| • ≤19                  | 3(2)              | 2(2)             | 1(2)             |
| • 20-34                | 113(75)           | 74(70)           | 23(55)           |
| • ≥ 35                 | 34(22)            | 29(28)           | 18(43)           |
| Paritas:               |                   |                  |                  |
| • Primigravida         | 55(36)            | 39(37)           | 9(21)            |
| • Multigravida         | 86(57)            | 66(63)           | 31(73)           |
| • Grandemultipara      | 9(6)              | 0                | 2(4)             |
| Mode of Delivery SC    | 71(47)            | 59(56)           | 36(85)           |

| Karakteristik bayi | Jumlah n bayi (%)           |                              |                              |
|--------------------|-----------------------------|------------------------------|------------------------------|
|                    | Obesitas ibu grade I; n=150 | Obesitas ibu grade II; n=110 | Obesitas ibu grade III, n=44 |
| Berat Bayi (gram)  |                             |                              |                              |
| • <1500            | 20 (13)                     | 24(22)                       | 10(23)                       |
| • 1500-1990        | 16(11)                      | 28(25)                       | 2(5)                         |
| • 2000-3990        | 107(71)                     | 50(46)                       | 29(65)                       |
| • >4000            | 7(5)                        | 8(7)                         | 3(7)                         |
| Apgar Skor Janin   |                             |                              |                              |
| • 0 – 3            | 46                          | 35                           | 12                           |
| • 4 – 6            | 24                          | 29                           | 10                           |
| • 7 – 10           | 80                          | 46                           | 22                           |

# Luaran Morbidly Obese RSDS 2016

| Variabel                                      | Persalinan Obesitas Morbid (N=42) |
|---|-----------------------------------|
| <b>Jenis Persalinan</b>                       |                                   |
| •SC   | 36 (85%)                          |
| •Pervaginam                                   | 6 (15%)                           |
| <b>Jenis insisi</b>                           |                                   |
| •Midline                                      | 3 (8%)                            |
| • <i>Pfannenstiel</i>                         | 33 (92%)                          |
| <b>Lama perawatan (Mean)</b>                  | 2 – 12 hari<br>(6.3)              |
| <b>Komplikasi Infeksi Luka operasi (n ;%)</b> | 3 (7%)                            |

# ALGORITMA HAMIL DG OBESITAS DI RS DR SOETOMO



# Rangkuman

- **Prevalensi obesitas makin meningkat di seluruh dunia, yang akan diikuti dengan meningkatnya diabetes dan obesitas dalam kehamilan di negara maju dan juga di Indonesia**
- **Upaya penanggulangan obesitas di Indonesia jangan seperti di Amerika Serikat**
- **Preconceptional counseling sangat penting u identifikasi dan modifikasi**
- **Masalah baru(Another wolf) – pakailah BMI**
- **Penyulit jangka pendek**

# Rangkuman

- **“In utero fetal programming” akan berdampak pada obesitas generasi berikutnya - Penyulit jangka panjang**
- **Masukkan dalam kehamilan risiko sangat tinggi u klas 3 dan 4**
- **Berikan DHA**
- **Persalinan sesar u klas 3 dan 4**