• DORIAN Developmental ORIgins of healthy and unhealthy AgeiNg
• EU Research project on the impact of obesity during pregnancy on the life of offspring
• Consortium of 10 partners in 6 countries
• January 2012 - December 2014
To the scientific community
End-users and policy makers
Provide stakeholders with a practical strategy on how to translate scientific evidence into guidelines, policy, etc.
• Maternal obesity increases the risk of premature ageing
• Insulin resistance & exposure to stress = inflammation, telomere shortening & epigenetic changes
• Prevention & Treatment is possible
• Prevention of obesity before pregnancy
• Prevention of excess weight gain during pregnancy
• Promotion of a healthy diet without excessive saturated fat consumption
• Provision of mental and psychological support for pregnant mothers
1. DORIAN HELSINKI

- 13,000 people
- 60-70 years old
- More likely to develop:
  - Cardiovascular diseases
  - Cerebrovascular diseases
  - Type 2 diabetes

=> when born from overweight mothers
• 90 mothers and their kids
  o Body Weight of the children
  o Cardiac Development in children is related to
    ✓ pre-pregnancy overweight
    ✓ weight gain during pregnancy
=> maternal weight & blood glucose will influence metabolism of the offspring at birth
• Telomeres = protective cap at end of DNA
• Long telomeres means health protection & repair of DNA
• Shorter telomeres means disease & shorter lifespan
• Maternal overweight and high weight gain => shorter telomeres in offspring
Advice for pregnant women

- If born with shorter telomeres
- If they have high weight

Situation can be reversed by **PREVENTION**!

- Avoiding excess weight gain
- Being physically active
• Obese mothers have a diet richer in fats & poorer in micronutrients
• Weaker protection against cortisol (stress hormone)
  ✓ Foetal growth will slow down
  ✓ Can provoke mental disorders in adulthood
• Advice:
  ✓ Healthy lifestyle
  ✓ Seek professional help if anxiety & depression
1. Need to develop prevention strategies, incorporating educational tools targeting women of child-bearing age
2. Include advice about healthy & low-calorie food
3. Facilitate cross-talk between gynaecologists and nutritionists
4. Develop and implement mindfulness training programs for parents
5. Develop **new strategies for mental health support** in pregnancy
6. Implement **exercise training programs** for improving the health status of elderly
   => beneficial even in frail women
7. Inform all health care professionals about **potential risks** derived from high fat food
   => on the mother and their offspring
Thank you for your attention

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