Outcomes of Prenatal Vitamin Use

How does taking prenatal vitamins during pregnancy affect lifelong health and development of the child?

BACKGROUND

- Calcium
  - Bone development
- Vitamin D
  - Absorption & metabolism of calcium
- Iron
  - Maintain oxygen-carrying capacity of blood cells
  - Red blood cell development
- Vitamin C
  - Tissue formation
  - Enhances absorption of iron
- Folic Acid
  - Helps regulate red blood cell development
  - Production of DNA/RNA
  - Development of normal brain function

SIGNIFICANCE

- Important for fetal development
- Affects long term health outcomes for the child
- Taking an OTC prenatal vitamin can help ensure recommended daily value of vitamins/minerals
- Come in many formulations (ingredients, pill, capsule, chewable)
- Not taking can affect growth and development and may cause birth defects

FINDINGS

- Decreased risk of low-birth weight infants
- Decreased risk of placental abruption & preeclampsia
- Decreased risk of birth defects caused by vitamin/mineral deprivation (neural tube defects)
- Cannot replace a healthy diet
- Does not contribute to obesity in the child at any point

Barriers to taking:
- Financial
- Poor education
- Size, taste, smell of pills
- Difficulty swallowing pills
- Reluctance to taking meds
- Forgetful/busy lifestyle
- Reluctance to taking medications

Specific Vitamins in Common Prenatal Vitamins & Recommended Daily Amount

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Recommended Daily Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>1000 mg</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>0.015 mg</td>
</tr>
<tr>
<td>Iron</td>
<td>27 mg</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>80 mg</td>
</tr>
<tr>
<td>Folic Acid</td>
<td>0.8 mg</td>
</tr>
</tbody>
</table>

REFERENCES


FUTURE IMPLICATIONS

At Risk Populations:
- Adolescents
- Multiple gestation (twins, triplets, etc.)
- Substance abuse history (alcohol and tobacco included)
- Eating disorders
- Strict vegetarians and vegans

Ways to Combat Barriers:
- Use different formulation
- Provide resources (social worker) for financial/access issues
- Educate patient on purpose & outcomes
- Healthy, balanced diet

ACKNOWLEDGEMENTS

Research Advisor: Jean S. Coffey, PhD APRN