Nutritional composition of infant formula

4th Technical Meeting with Trade
4 October 2013

Legislative Proposal Relating to Formula Products and Foods Intended for Infants and Young Children under the Age of 36 Months in Hong Kong
CODEX requirement

- CODEX STAN 72 – 1981 covers nutritional composition of infant formula. The level of energy and nutrients shall fall within the range specified by Codex.
Codex composition requirement

- Compositional requirements
  - Essential composition (energy + 33 nutrients (i.e. “1+33” ))
    - Energy
    - Protein, Carbohydrates
    - Total fat, Linoleic acid, α-Linolenic acid
    - 13 Vitamins
    - 12 Minerals and trace elements
    - 3 Other substances (Choline, Myo-Inositol, L-Carnitine)
  - Optional ingredients
    - Taurine
    - Total nucleotide
    - DHA
    - Fluoride

- Detailed requirements of certain nutrients
Detailed requirements of certain nutrients by CODEX STAN 72 – 1981

- Amino acid
- Lauric and myristic acid, trans fatty acid, eurcic acid
- Phospholipids
- Ratio of linoleic to α-linolenic acid
- Vitamin E in relation to PUFA
- Ratio of calcium to phosphorus
- Taurine (if added)
- Ratio of DHA:AA; EPA:DHA (if DHA is added)
- Fluoride
<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lauric and myristic acids</td>
<td>Potential negative effects on serum cholesterol and lipoprotein concentrations</td>
</tr>
<tr>
<td>Erucic acid</td>
<td>No known nutritional benefit for infants; observation in animals have indicated potential myocardial alterations</td>
</tr>
<tr>
<td>Trans fatty acid</td>
<td>No known nutritional benefit for infants; may affect essential fatty acid metabolism, lipoprotein metabolism and potential impairment of early growth</td>
</tr>
<tr>
<td>Vit E : PUFA</td>
<td>To take into account the increase Vit E requirement with increased no. of double bonds in dietary fatty acid supply</td>
</tr>
<tr>
<td>Taurine</td>
<td>Taurine is a major constituent of bile salts and is abundant in foetal and neonatal human brain. No need for mandatory addition. Recommendation indicated a safe level of optional addition</td>
</tr>
<tr>
<td>DHA: AA; EPA: DHA</td>
<td>Safety of levels/ratio deviated from the recommendation has not been adequately demonstrated. Inappropriate intake amount /ratio may affect metabolism of fatty acids (which might eventually have impact on body functions, e.g., renal function, blood coagulation and immunological reactions)</td>
</tr>
<tr>
<td>Fluoride</td>
<td>Risk of dental fluorosis for high intake</td>
</tr>
</tbody>
</table>
Definition of nutrients

- Definition of nutrients have been discussed in the 2nd Technical Meeting with Laboratory Service Providers held on 15 March 2013

- Definition can be checked from the powerpoint presentation uploaded on the CFS dedicated website for the legislative proposals
Way forward

- We are considering to include nutritional composition requirements and detailed requirements of some nutrients of infant formula in the proposed regulation.

- If considered necessary, detailed requirements of nutrients that do not include in the proposed regulation will appear in the form of trade guideline as recommendations.
Nutrition labelling of infant formula

- According to CODEX STAN 72 – 1981, fluoride should not be added to infant formula. Its level should not exceed 100 µg/100 kcal or 24 µg/100 kJ in the infant formula prepared ready for consumption.

- Aus/NZ requires infant formula having exceeding level of fluoride to bear some sorts of warning statements to remind consumers on the risk of dental fluorosis.
For comments and discussion