

# Promoting young child nutrition - the Malaysian experience



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## Scope of presentation ....

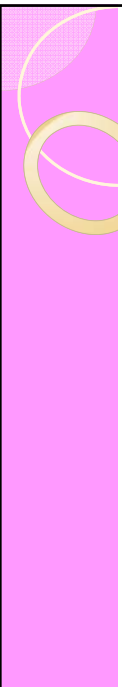
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1. **Nutritional status of children in Malaysia**
    - ❖ **MOH surveillance data**
    - ❖ **National Health and Morbidity Survey III (2006)**
  2. **Intervention programmes, especially focused on children**
    - ❖ **National Plan of Action for Nutrition of Malaysia (2006-2015)**
    - ❖ **Nutrition Month Malaysia 2009**
  3. **Malaysian dietary guidelines - the role of milk**
  4. **Formulated Milk Powder for Children**
    - ❖ **Need for new category of milk powder for children**
    - ❖ **Main /unique features of FMPC**
    - ❖ **Positioning of FMPC**

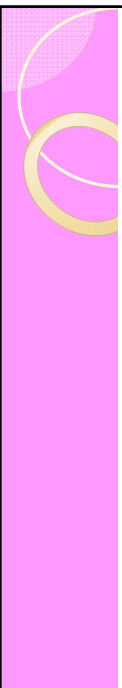


# 1. **Nutritional status of children in Malaysia ....**

## a. **MOH surveillance system**

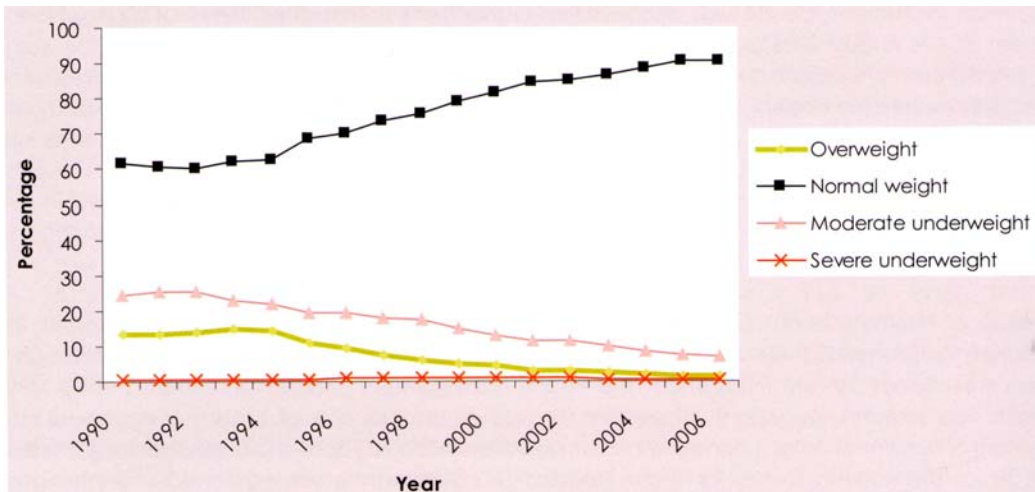
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- **MOH monitors nutritional status of children under 5 years who attend government health clinics**
  - **Using weight for age as the main indicator, collected since 1990**
    - ❖ **Data not representative of population since samples limited to those children who attend the clinics,**
    - ❖ **but useful in providing data on trend of nutritional status**
  - **Summary data for 1990-2006 and more detailed data for 2001-2006**

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- **Summary of nutritional status of children <5 years (from nutrition surveillance data): 1990-2006**
    - ❖ **Nutritional status of children improved over the years**
    - ❖ **Proportion of moderately underweight decreased gradually while proportion of children with normal body weight increased over the years**
    - ❖ **Percentage of severely underweight children remained at below 1% since 1990**
    - ❖ **Proportion of overweight children also declined from 1995 to 2006**
    - ❖ **Summarised in chart in next slide**

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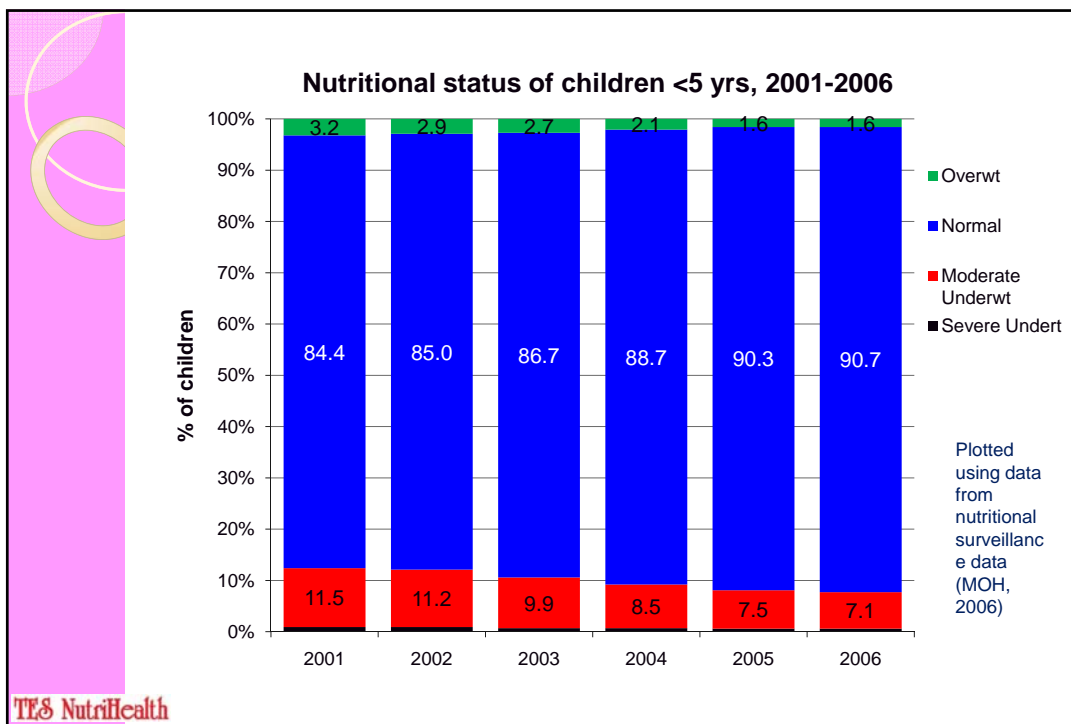
**Nutritional status of children under 5 years from Nutrition Surveillance Programme, 1990-2006**



Source: MOH (2006)

- **Nutritional status of children <5 years (from nutrition surveillance data), 2001-2006**
  - ❖ **Prevalence of underweight declined over the years, from 12.4% in 2001 to 7.7% in 2006. In all years, the prevalence is always higher in the 1-5 yrs group, compared with the infants (<1 year group)**
  - ❖ **% of moderately underweight declined from 11.5% in 2001 to 7.1% in 2006**
  - ❖ **% of severely underweight reduced from 0.9% in 2001 to 0.6% in 2006**
  - ❖ **% of overweight children declined steadily over the years (from 3.2% in 2001 to 1.6% in 2006)**
  - ❖ **Considerable differences in rates in different states**

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# 1. Nutritional status of children in Malaysia ....

## b. National Health & Morbidity Survey III (2006)

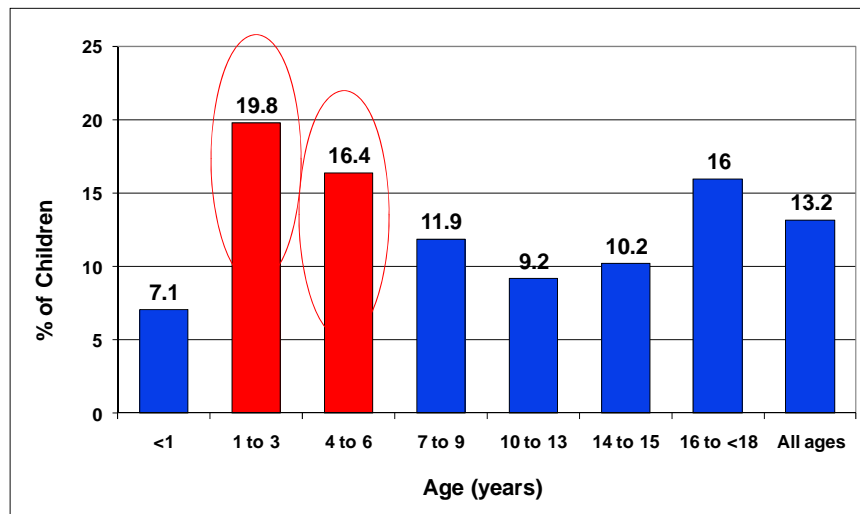
### Nutritional status of Malaysian children (<18 years)

	National	Gender		Location	
		Boys	Girls	Rural	Urban
Underweight	13.2	14.5	12.0	16.0	11.4
Stunted	15.8	16.6	15.0	19.4	13.6
Wasted	10.4	10.6	10.2	11.0	9.5
Overweight	5.4	6.0	4.7	4.0	6.3

National Health & Morbidity Survey 2006; N=21,249

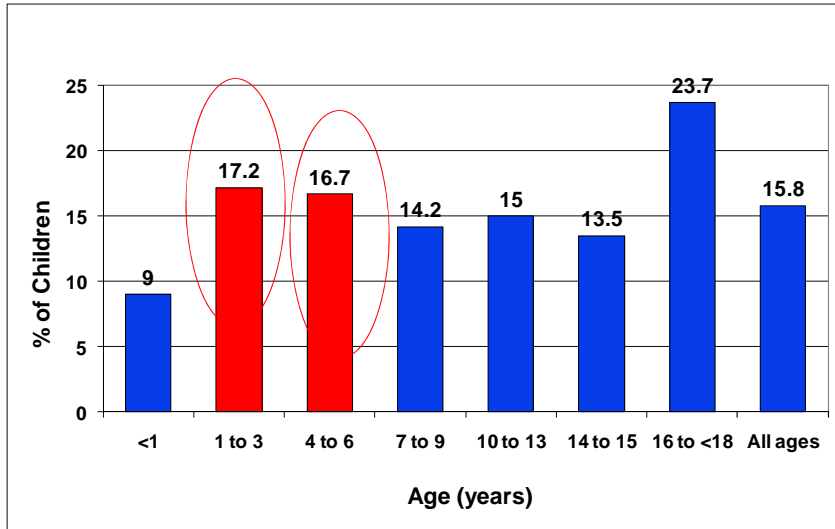
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### Prevalence of underweight by age groups



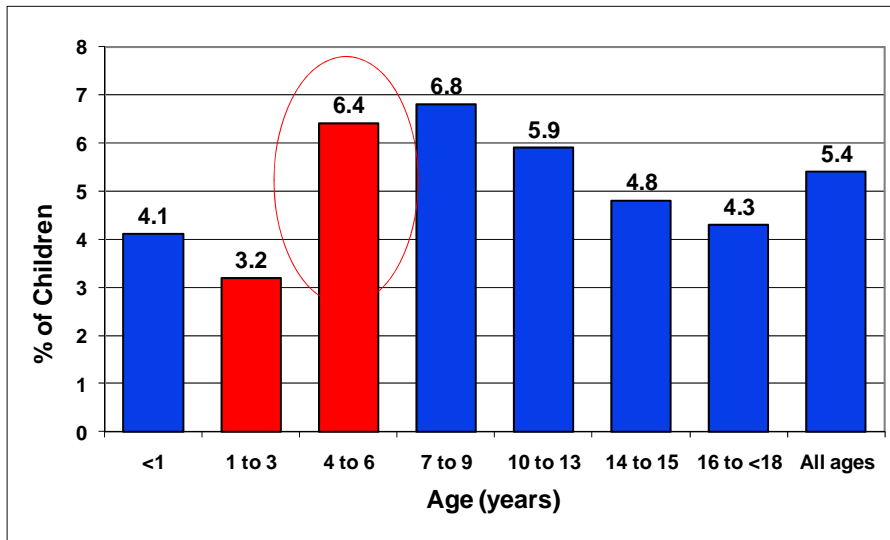
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### Prevalence of stunting by age groups



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### Prevalence of overweight by age groups



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## **Nutritional status of children in Malaysia - conclusion**

- ❖ **Majority of children (over 80%) of have satisfactory nutritional status**
- ❖ **But significant proportion (~ 15%) found to be underweight, stunted or wasted**
- ❖ **Other studies also indentified micronutrient deficiencies such as iron, iodine and vitamin A amongst selected groups**
- ❖ **Overweight also found to be a significant problem, affecting ~5% of children**
- ❖ **And the most affected group was children 1-6 years old**

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## **Nutritional status of children in Malaysia - conclusion (2)**

- ❖ **Compared with findings reported 3 decades ago, these recent findings show that nutritional status of children have improved markedly over the years**
- ❖ **There is however no room for complacency**
- ❖ **All attention and effort must continue to be directed to improving child nutritional status and optimizing their growth and development**

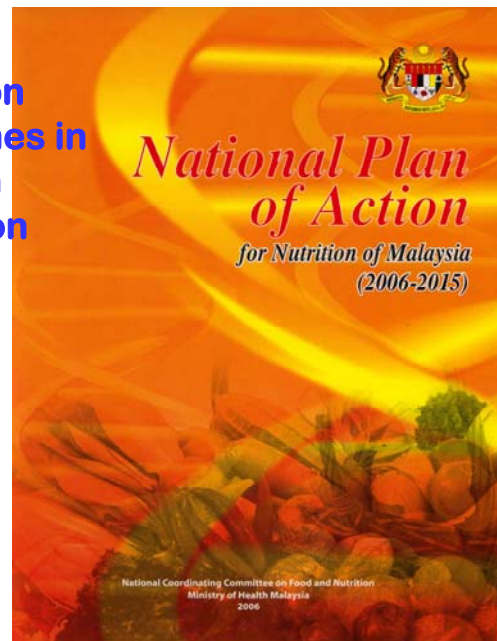
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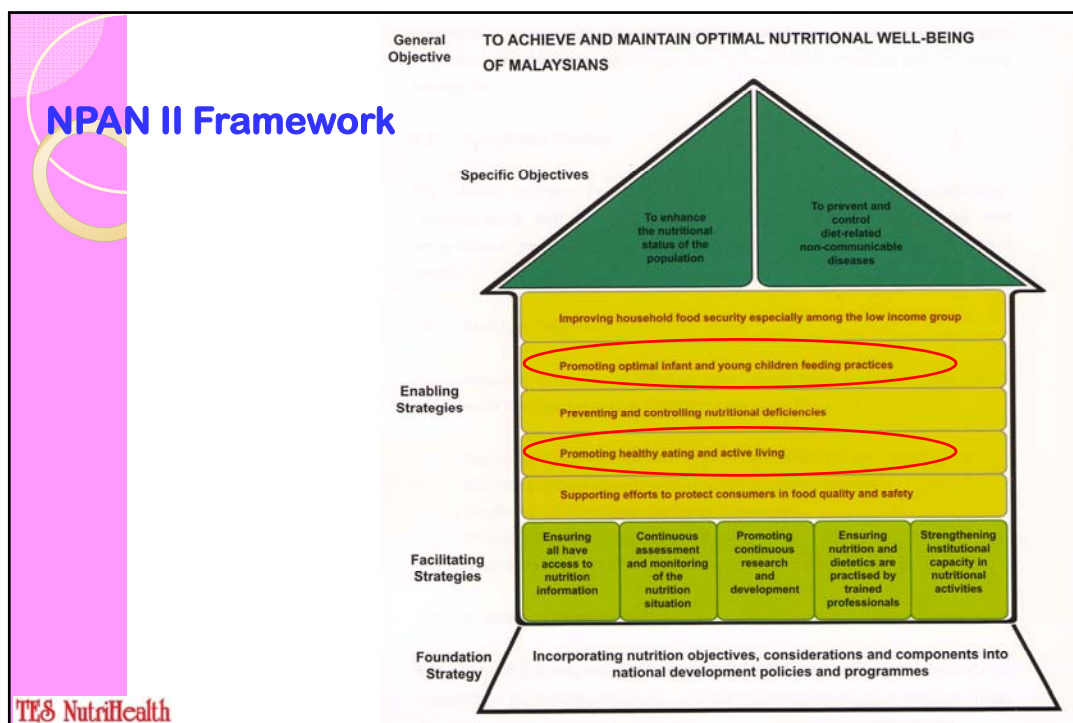


## 2. Intervention programmes, especially focused on children ....

### a. National Plan of Action for Nutrition of Malaysia (2006-2015)

Master plan for nutrition intervention programmes in Malaysia, tackling both under- and overnutrition problems





- Two key enabling strategies in NPANM II**
- **Promoting optimal infant and young child feeding practices**
  - **Promoting healthy eating and active living, through**
    - ❖ **Intensification of education programmes from young**
    - ❖ **Educate healthcare providers, pre-school teachers and care givers on appropriate nutritional care for the identified vulnerable groups.**
    - ❖ **Develop and publish educational materials for target groups**
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- **Besides the Ministry of Health Malaysia, various other agencies and professional bodies have collaborated in promoting health eating activities**
  - **The Nutrition Society of Malaysia has carried out a number of nutrition promotion activities to reach out to the community .....**
  - **One of these initiatives is Nutrition Month Malaysia, spearheaded by Nutrition Society of Malaysia, from 2002**
    - ❖ **to promote greater awareness and the practice of healthy eating, in line with the Government's healthy lifestyle programme**



## **2. Intervention programmes, especially focused on children ....**

- b. Nutrition Month Malaysia carried out a 3-year child nutrition promotion programme**



# Nutrition Month Malaysia '09

*Healthy Children, Healthier Nation*

Organised by



Nutrition Society of Malaysia



Malaysian Dietitians' Association



Supported by Ministry of Health Malaysia

- ♦ 2009 focused on children 1-6 years old
- ♦ 2010 focuses on children 7-12 years old
- ♦ 2011 focuses on children 13-18 years

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## Several educational materials published:

1. Booklets for parents/care-givers
2. Educational press articles
3. DVD and worksheets for kindergarten teachers



**DVD for kindergarten teachers to provide preschoolers with simple nutrition messages**

**Nutrition Month Malaysia 09**

**Kanak-kanak Sihat, Negara Lebih Sihat**

**Memupuk Gaya Pemakanan Sihat**

DVD Untuk Kanak-Kanak Pra-sekolah (4-6 tahun)

- Bahagian 1: Makan Secara Sihat, Mambesarkan Dengan Kuat
- Bahagian 2: Makan Sarapan, Pandai Belajar
- Bahagian 3: Makan Secara Sihat, Bermain Dengan Cergas

**Nutrition Month Malaysia 09**

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## Worksheet for children

Bahagian 1

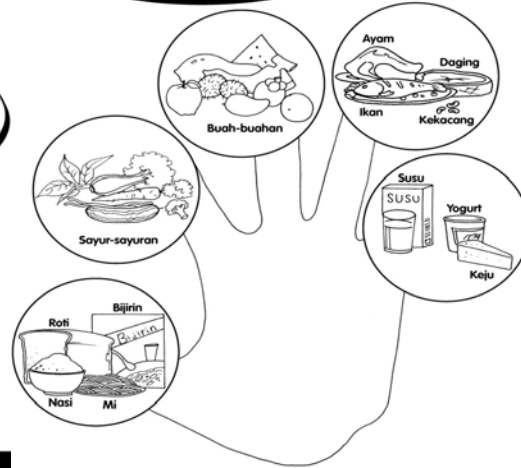
**Makan Secara Sihat, Membesar Dengan Kuat**



Nota: Gunakan kertas aktiviti ini selepas menonton DVD Bahagian 1

Berapa jari pada tangan kanan adik-adik?  
Ya, adik-adik ada 5 jari!  
Terdapat juga 5 kumpulan makanan yang adik-adik perlu makan setiap hari.  
Warnakan gambar di bawah dan tunjukkan kepada ibu dan ayah!

Nama: \_\_\_\_\_  
Kelas: \_\_\_\_\_



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*Healthy Children,  
Healthier Nation*

**Family Nutrition Screening**

**FREE**

- For children :
  - Weight & Height Check
- For parents :
  - BMI, % Body Fat, Blood Pressure, Blood Glucose & Cholesterol

Plus:  
Healthy Eating Advice



See you there!

- April 4 & 5, 2009
- 10am - 10pm
- Hall 3, Mid Valley Exhibition Center

Product gifts up for grabs all day long

**Nutritionists and Dietitians reaching out to the public .....**

**NMM 09 Family Carnival**

**Join us!** Come, tons of fun are waiting for you & your family!

Over RM20,000 worth of prizes to be won

Product gifts up for grabs all day long

Inter-kindergarten Talent Competition

Colouring contest

Free products sampling

Other fun activities for kids & family

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## Educational press articles:

Find out how good nutrition in the formative years can impact your child's health. By Tee E. Siang, the President of the Nutrition Society of Malaysia.

**NOURISHING THE CHILDREN**

There are many parents that are who feed their children right. However, there are others who, unfortunately, are not so concerned about the nutritional status of their young ones. Some parents lack the appropriate knowledge on how to feed their children right.

Know this: Inappropriate nourishment can lead to children not growing and...

Although the extent of the problem is not clearcut, it is a widespread concern.

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**My Healthy Child**

All things start with the way to give with health all the time, starting from your pregnancy. Nutrition being healthy is not just about how many to give to the baby. It really is about the quality of the food that you give to your child. It is about the quality of the food that you give to your child. It is about the quality of the food that you give to your child.

**Keeping Tabs & Promoting Health**

Make sure you're not just another one of the many parents who are just trying to get by. Make sure you're not just another one of the many parents who are just trying to get by. Make sure you're not just another one of the many parents who are just trying to get by.

**Feeding Her Healthy**

To support your child's growth and...

Advertisement

**给孩子适当营养**

多了解食物金字塔

在家烹饪是最佳选择

营养师黄佩玲说，很多家长都会问，孩子应该吃什么？其实，给孩子适当的营养，才是最重要的。她指出，很多家长都会给孩子吃太多高热量的食物，导致孩子超重或肥胖。她建议家长应该给孩子吃均衡的饮食，包括谷物、蔬菜、水果、蛋白质、奶制品、油脂和脂肪。

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Memujuk pemakanan sihat anak

Walau pun dia nampak buai, dia seluruhnya seperti anak yang memetik makanan yang sihat. Walaupun dia nampak buai, dia seluruhnya seperti anak yang memetik makanan yang sihat. Walaupun dia nampak buai, dia seluruhnya seperti anak yang memetik makanan yang sihat.

Kanak-kanak bukanlah seperti kita. Mereka mempunyai selera yang berbeza. Mereka memerlukan makanan yang sihat dan bergizi. Mereka memerlukan makanan yang sihat dan bergizi. Mereka memerlukan makanan yang sihat dan bergizi.

Di alam Lipatan Kajian Tripartit, kita melihat bagaimana berat badan, berat tulang, dan berat otot anak-anak berkembang. Kita melihat bagaimana berat badan, berat tulang, dan berat otot anak-anak berkembang.

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## 3. Malaysian dietary guidelines ....

..... the role of milk

- In all educational materials, the emphasis has been that parents should nourish and nurture their children
  - ❖ especially when they are in the crucial formative years
- Messages to parents to help them raise healthy young children have been based on the Malaysian dietary guidelines
  - ❖ These guidelines focus on eating a variety of foods, eating a balance diet and eating in moderation.
- Milk and dairy products, with their well known nutritional properties, can certainly contribute significantly towards meeting a child's nutritional needs



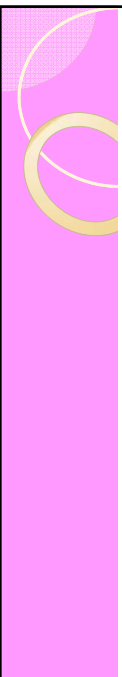
**FOOD GUIDE PYRAMID FOR CHILDREN**  
Age 2 to 6


PIRAMID PANDUAN PEMAKANAN UNTUK KANAK-KANAK  
Berumur 2 hingga 6 tahun





## The need for a milk powder for children ....

- 
- **Right nutrition is all about providing the right food, at the right time and in the right amounts**
  - **Prerequisites to meet nutritional needs of a child for optimal growth and development**
    - ❖ **Adequate amount of nutritious food**
    - ❖ **Balanced intake of different foods**
    - ❖ **Correct feeding practices**
  - **Nutrient needs of young children are high**
    - ❖ **Higher than for adolescents and adults in terms of energy or nutrients per kg body weight**

- 
- **Making available nutritious food to young children is therefore of importance**
  - **This is challenging for all mothers, especially**
    - ❖ **working women, having to juggle between career and family needs**
    - ❖ **limited nutrition knowledge, limited financial resources**
    - ❖ **picky eaters, with very restricted dietary variety**
  - **Milk, with its well known nutritional properties can certainly contribute significantly to child's nutritional needs**
  - **Not just any milk powder, but a milk powder with a nutrient profile formulated to meet nutritional needs of growing children**



**Recognizing this, Ministry of Health Malaysia has permitted the creation of ....**


## **4. New category of milk powder for children ....**

**.... regulated by a specific regulation**

- The appropriate designation of the product agreed to be: **Formulated Milk Powder for Children - FMPC**
- “children” mean any person from the age of **12 months to 9 years**
- **FMPC shall contain**
  - ❖ **nutrients as specified in column (1) of Table I, in amounts not less than that specified in Column (2)**
  - ❖ **not less than 11.2 g/100 g and not more than 25 g/100 g of fat; and**
  - ❖ **not less than 7 g/100 g of protein from milk**
- **may contain other suitable food substances including cocoa, honey, corn, soya, cereals and fruits**


**Table 1.  
Nutrient  
level per  
100 g milk  
powder**

(1) <i>Nutrient</i>	(2) <i>Minimum Level (Per 100 g)</i>
Energy (kcal)	384
Vitamin A (µg)	132
Vitamin D (µg)	1.5
Vitamin C (mg)	9.4
Thiamine (vitamin B <sub>1</sub> ) (mg)	0.2
Riboflavin (vitamin B <sub>2</sub> ) (mg)	0.2
Nicotinamide (mg)	2.5
Vitamin B <sub>6</sub> (mg)	0.2
Folic acid (µg)	64
Pantothenic acid (mg)	0.9
Vitamin B <sub>12</sub> (µg)	0.4
Vitamin K <sub>1</sub> (µg)	5.9
Biotin (µg)	3.8
Vitamin E (mg)	1.7
Calcium (mg)	175
Magnesium (mg)	22.8
Iron (mg)	1.4
Iodine (µg)	28
Zinc (mg)	1.5
Selenium (µg)	5.9



- **Purposely formulated with a nutrient profile to meet nutritional needs of growing children**
- **Hence nutrient profile based on**
  - ❖ **Nutritional requirements (RDA) of the growing children, and**
  - ❖ **Its positioning as one of the daily food items for the child, supplementing to the overall nutrient needs**
- **Basis for the proposed nutritional profile is the Malaysian Recommended Nutrient Intake (RNI) (2005)**
  - ❖ **For those nutrients not in national RDA, use an acceptable international RDA, e.g. FAO/WHO**

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- **Therefore, the following nutrients were taken from Malaysian RNI: Energy, protein, vitamins A, D, C, B1, B2, nicotinamide, folic acid, vitamin E, calcium, iron, iodine, zinc and selenium**
- **The others taken from FAO/WHO (2002): Mg, B6, pantothenate, biotin, B12 and K**

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- may contain L(+) lactic acid producing cultures
- may contain sucrose, glucose, fructose, glucose syrup, and dextrose as permitted sweetening substances
  - ❖ total sucrose content shall not exceed 12 g per 100g. For flavoured variants, total sucrose content shall not exceed 20 g/100 g
- May contain nucleotides as specified in Column (1) of Table II
  - ❖ The total concentration of nucleotides shall not exceed 25 mg per 100 g
- May contain nutrients specified in Table I of the Twelfth Schedule
  - ❖ Other nutrients may be added with prior written approval of the Director (apply on a case-by-case basis)




TWELFTH SCHEDULE  
(Regulation 26)


PERMITTED NUTRIENT SUPPLEMENT

TABLE I

The following nutrient supplements are permitted in food:

1. *Vitamin and Mineral*
  - Pantothenic acid
    - Calcium pantothenate
    - D - pantothenic acid
    - D - pantothenyl alcohol
    - Panthenol
  - Iron (III) - Casein Complex
  - Iron (Fe)
    - Carbonyl iron
    - Electrolytic iron
    - Ferric ammonium citrate
    - Ferric caseinate

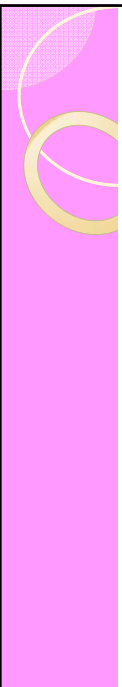
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- **There shall be written on the label, in bold, the statements:**
    - ❖ **“NOT SUITABLE FOR INFANTS BELOW 12 MONTHS OF AGE”**
    - ❖ **“BREAST MILK IS THE BEST FOOD FOR INFANTS”**
    - ❖ **“THIS PRODUCT IS NOT THE ONLY FOOD FOR CHILDREN”**
  - **The following nutrient declarations shall be made, per 100 g and per serving of the product:**
    - **amount of energy expressed in kcal; protein, fat and carbohydrate expressed in g; amount of nutrients specified in Column (1) of Table 1**

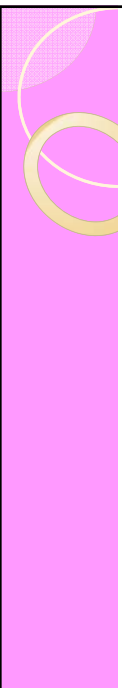
- 
- **Other labelling requirements:**
    - ❖ **Directions for preparation, storage**
    - ❖ **Suggested amounts for serving**
  - **FMPC or its ingredients shall not contain partially hydrogenated oils and fats**
    - ❖ **To keep level of trans fatty acids in the product low as possible**

- 
- **Draft regulation reviewed by Expert Group on Nutrition, Health Claims and Advertisement several rounds**
  - **Draft regulation completed in June 2006**
  - **Endorsed by the Malaysian Food Regulations Technical Advisory Committee**
  - **Sent for public comment in July 2006**
    - ❖ **No major objections were received by end 2006**
  - **It is now being finalised by the Legal Department of MOH before submitting for gazettelement**



## **Unique features of Formulated Milk Powder for Children ....**

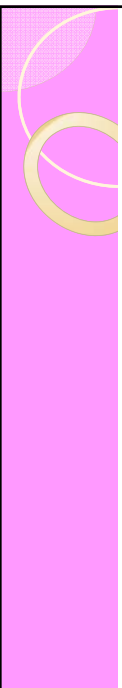
- 
- **Several features in the composition of this milk powder further contributes to the uniqueness of this category**
    - ❖ **The permitted flavouring and nutrient profile (especially protein and fat content) makes this product more palatable and easily acceptable by young children who at this age are picky eaters but requiring good nutrient input because of rapid growth**
    - ❖ **The various innovations and value-added formulations available in the market (eg the addition of prebiotics, probiotics and other food components) can contribute to better health promotion amongst children**


- 
- **Because of the approach taken to derive at the nutrient profile, the proposed specifications for milk powder for children are distinctly different from that for Regulation 398A, the current standard for follow-on formula (FO)**
    - ❖ **all the nutrients per 100 gram of Milk Powder for Children are lower than those required for FO**
    - ❖ **except for nicotinamide, folic acid and iodine which are higher in FO**






## **Positioning of Formulated Milk Powder for Children ....**

- 
- **Not just any milk powder, but a milk powder with a nutrient profile formulated to meet nutritional needs of growing children**
    - ❖ **Able to provide good quality protein, calcium and iron, and other nutrients, depending on the family diet**
    - ❖ **serves as a useful supplementary food, more nutritious than to consume other beverages of doubtful nutritional value**
    - ❖ **Inculcate milk drinking habit, which should be continued as milk brings about nutritional benefits even later in life**



- **This new category of Milk Powder for Children will enable this food to be made widely available, at affordable prices to mothers**
  - ❖ **to supplement nutrient intake of their children, ensure they meet daily nutrient needs**
- **Milk Powder for Children is positioned as a supplementary food for children 1-9 years, to be consumed, in most cases, 3 times a day.**
- **By 1 year of age, the child is probably eating from the family foods (rice, meat, fish, egg, fruits, vegetable ... )**
  - ❖ **this milk powder contributes to about 1/3 of the recommended intake of a child**
- **Formulated to be appropriate for a wider range of age, from 1-9 years**

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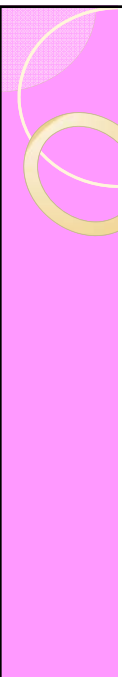


- **The positioning of Milk Powder for Children can be viewed as a progression from infant formula and follow-on formula:**
  - ❖ **Infant formula (if not breast feeding), by itself, can meet all the nutrients needed for an infant's growth and development for 6 months**
  - ❖ **Follow-on formula is for consumption of older infants from 6 months onwards, often 5 times a day; it contains most nutrients required whilst requiring the supplementation of small amounts of other solid foods;**
  - ❖ **milk powder for children, to be taken 3 times a day, is part of the regular diet of a child; it serve a useful purpose of filling up the gaps of those nutrients which might be lacking in the young child's diet**

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## Concluding remarks ....

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- **Just a brief insight into intervention programmes for children**
  - **Various other activities contained in NPAN II to be implemented**
    - ❖ **need for government actions**
    - ❖ **professional bodies collaboration**
    - ❖ **and private sector partnership**
  - **Focus must be on toddlers and pre schoolers**
    - ❖ **only a small window of opportunity to intervene during formative years**
    - ❖ **particularly challenging for rapidly developing nations, with working parents, leaving much of the care to other care-givers**
    - ❖ **kindergartens can play significant role**