

Improving Early Child Nutrition in Rural China

Exploration and practice



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Consensus in Pediatrics and Child Health

With adequate nourishment in the earliest years of life, children have an opportunity to grow to reach their full potential.

Nutrition can have a measureable lasting impact on:

- growth**
- brain development**
- incidence of disabilities and**
- susceptibility to disease or infection**





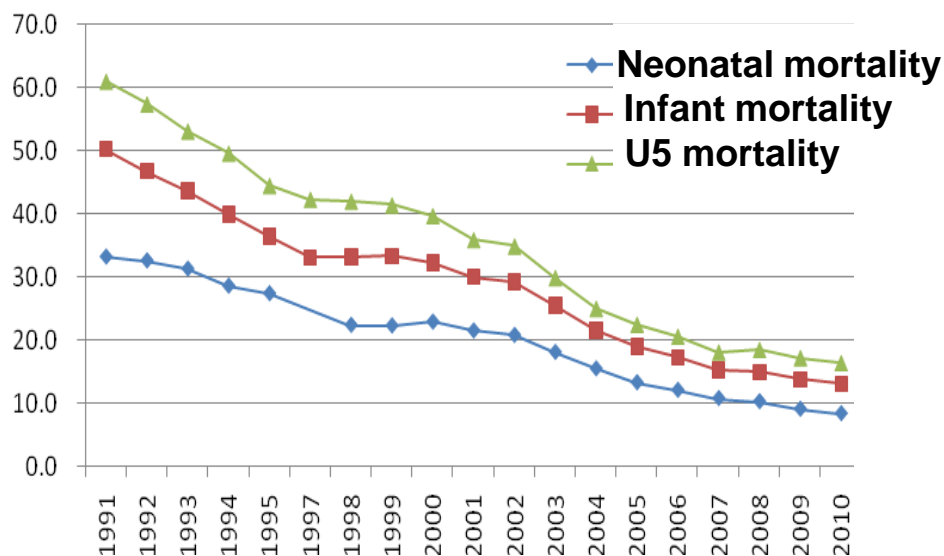
The First 1,000 Days of Life: Change a Life, Change the Future

- Maternal and child nutrition during the first 1,000 days — pregnancy through age two — shapes a child's future.

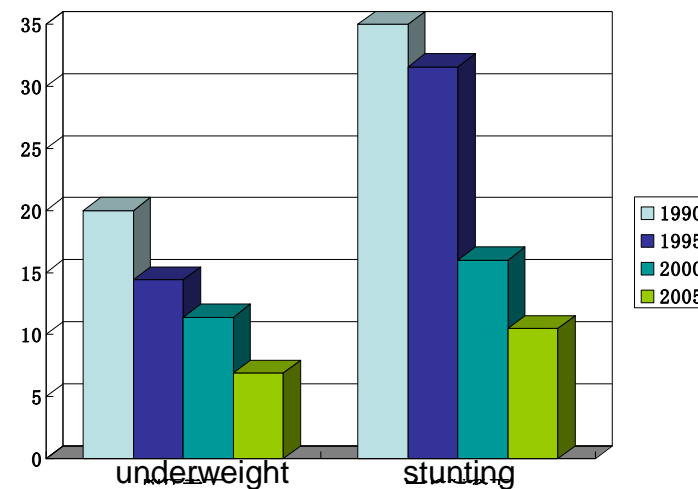
The 1000 Days Movement initiated wouldwidely

Improving early child nutrition in rural China - **One of the largest programs in the Global 1000 Days Movement.**

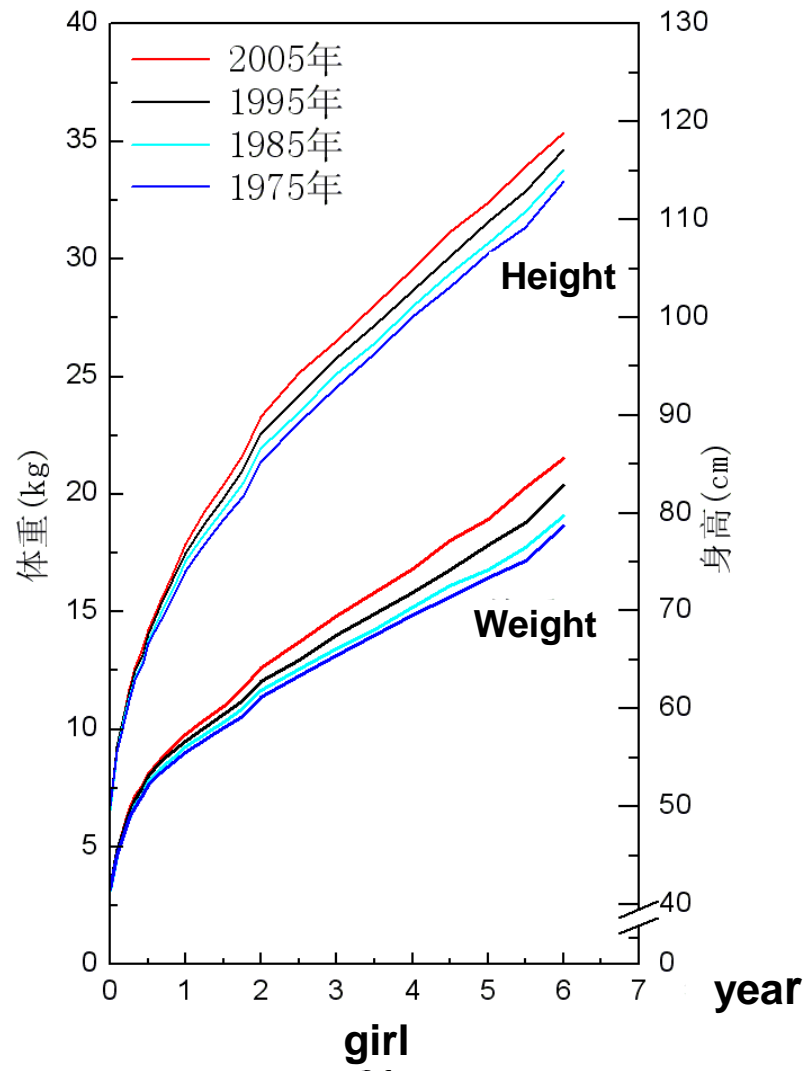
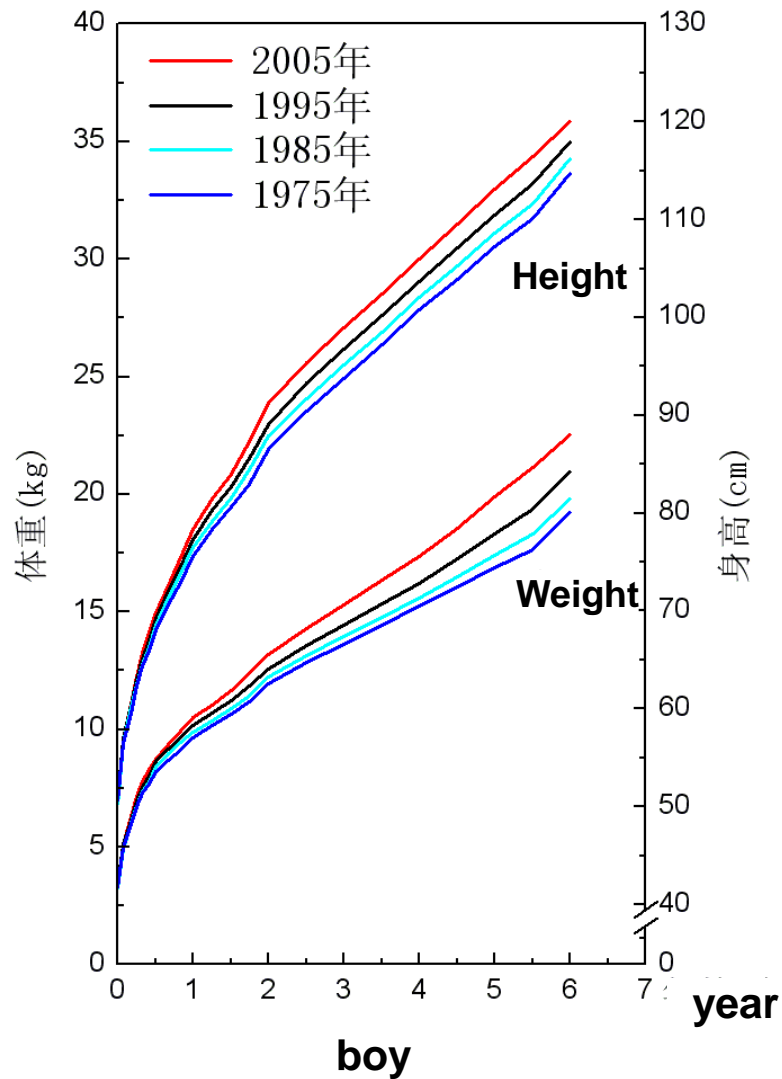
Improvement of Child's Health and Nutrition in China During the past decades



Child's mortality rates



Under-nutrition in U5 children 1990-2005



Increase of height and weight of children 0-7 during the past three decades from 1975 to 2005 (Capital Institute of Pediatrics)

New Challenge

**GAPS of health and nutrition
between areas of**

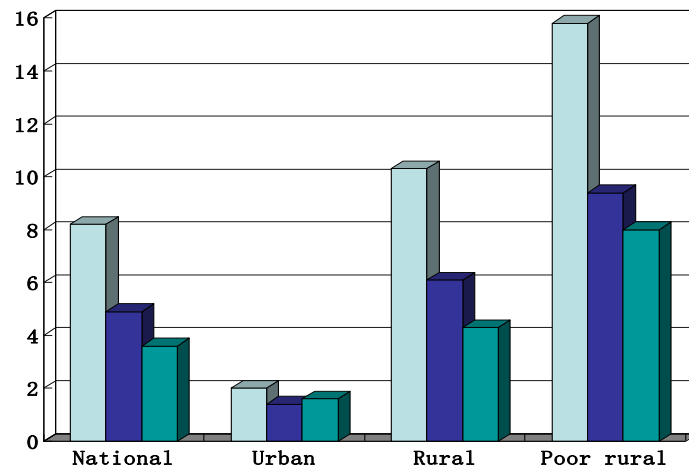
urban and rural

eastern and western

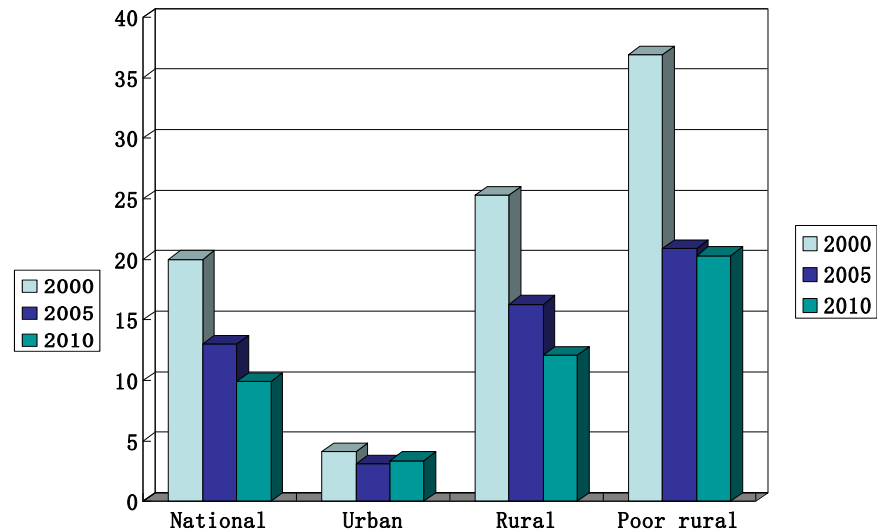
developed and developing

Male nutrition in children in China

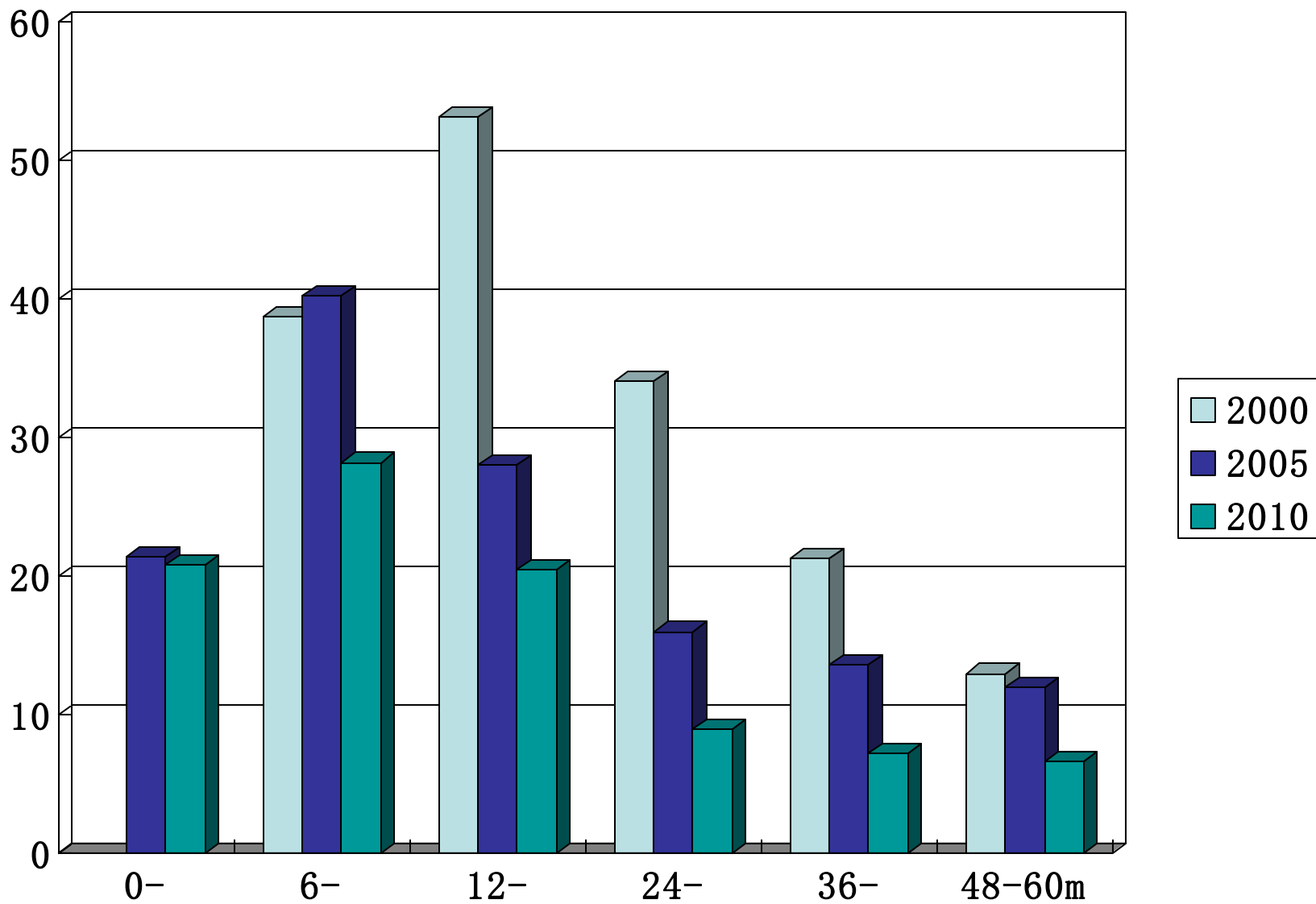
- Malnutrition in young children, such as underweight, stunting and anemia are still outstanding problems in infants and young children in rural areas, especially in poor rural areas.



**Underweight in U5 children
in 2000-2010**



**Stunting in U5 children
in 2000-2010**



Anemia prevalence in age groups in 2000-2010

Prevalence of anemia in under 5 children 1992—2005

Year	Average%	Urban%	Rural%
1992*	16.5	13.1	17.6
1998	16.8	15.2	17.7
2000	21.7	12.3	26.7
2002*	18.8	12.7	20.8
2005	18.6	11.6	20.3

来源：中国食物营养监测系统

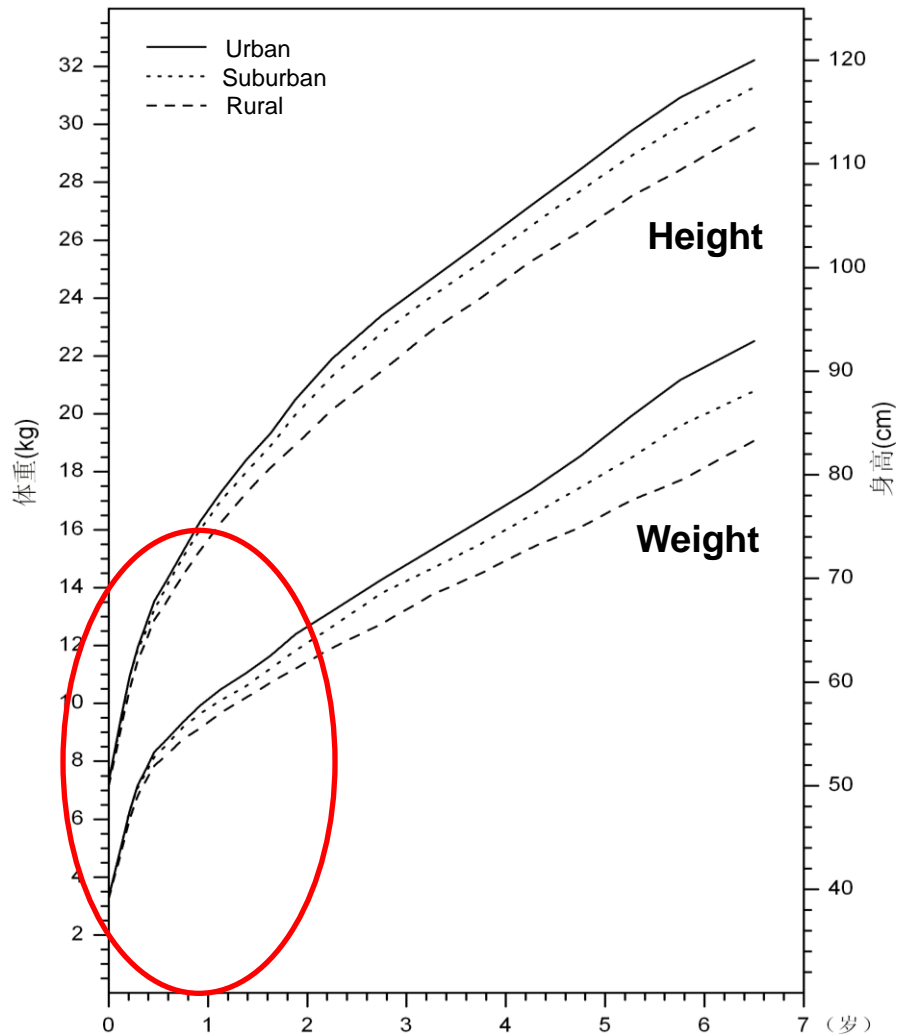
*1992中国营养状况调查 及2002年中国营养健康状况调查

Factors related to under-nutrition in rural areas

- The main barriers in infant nutritional intake include early weaning and inadequate complementary feeding both in quantity and quality.

24-hour Dietary Recall

Age	Sample		Compl. feeding	Cereal	Meat & fish	egg	milk	veget	fruit	bean
	N	%								
6~	32	12.8	90.6	87.5	21.9	15.6	31.3	21.9	12.5	3.1
7~	52	20.7	98.1	98.1	34.6	26.9	28.9	34.6	40.4	11.5
9~	44	17.5	100.0	95.4	36.4	22.7	50.0	59.1	50.0	9.1
12~24	123	49.0	100.0	96.0	35.8	24.4	56.1	55.3	51.2	17.9
Total	251	100.	98.4	95.2	33.9	23.9	46.2	47.4	43.8	13.2



Difference of height and weight of children among urban, suburban and rural areas in 2005 (Data from MOH)

Factors related to under-nutrition in rural areas

- **Awareness and recognition of early feeding and nutrition**
- **Breastfeeding issues:**
 - **Early stop breast feeding**
 - **Failure of breast feeding with inappropriate feeding skills**
 - **Lack of community support**
- **Complementary feeding**
 - **Delay to start complementary food supplement**
 - **Poor quality of complementary feeding**
 - Relative risk of absence of meat, vegetable and dairy product in complementary food for stunting was 1.38-1.43**
 - 40% risk increase.**

National strategy for infant and young children

- To promote breast feeding**
- To improve complementary feeding behavior**
- To support complementary nutrition supplement**
 - Home based fortified supplement food for complementary feeding**

Nutrient-dense fortified food supplement

- In 2001, Dr Chen Chumming proposed:
the concept of an infant complementary nutrition supplement with a nutrients package to meet the demand for rural 6-36 month-old infants.
- Subsequently, the development of infant complementary food supplement, also known as Yin Yang Bao (nutrient-dense fortified food supplement), began.
- YYB includes a protein powder and a variety of vitamins and micronutrients (such as iron, zinc and calcium).

The Pilot Study Project of YYB

- **The first pilot YYB project was carried out by Dr. Chen Chungming in Gansu Province in 2001-2004**
- **1500 babies received YYB for more than 12 months.**
- **The results indicated that the nutrition status of the children was significantly improved.**

The Pilot Study Project of YYB

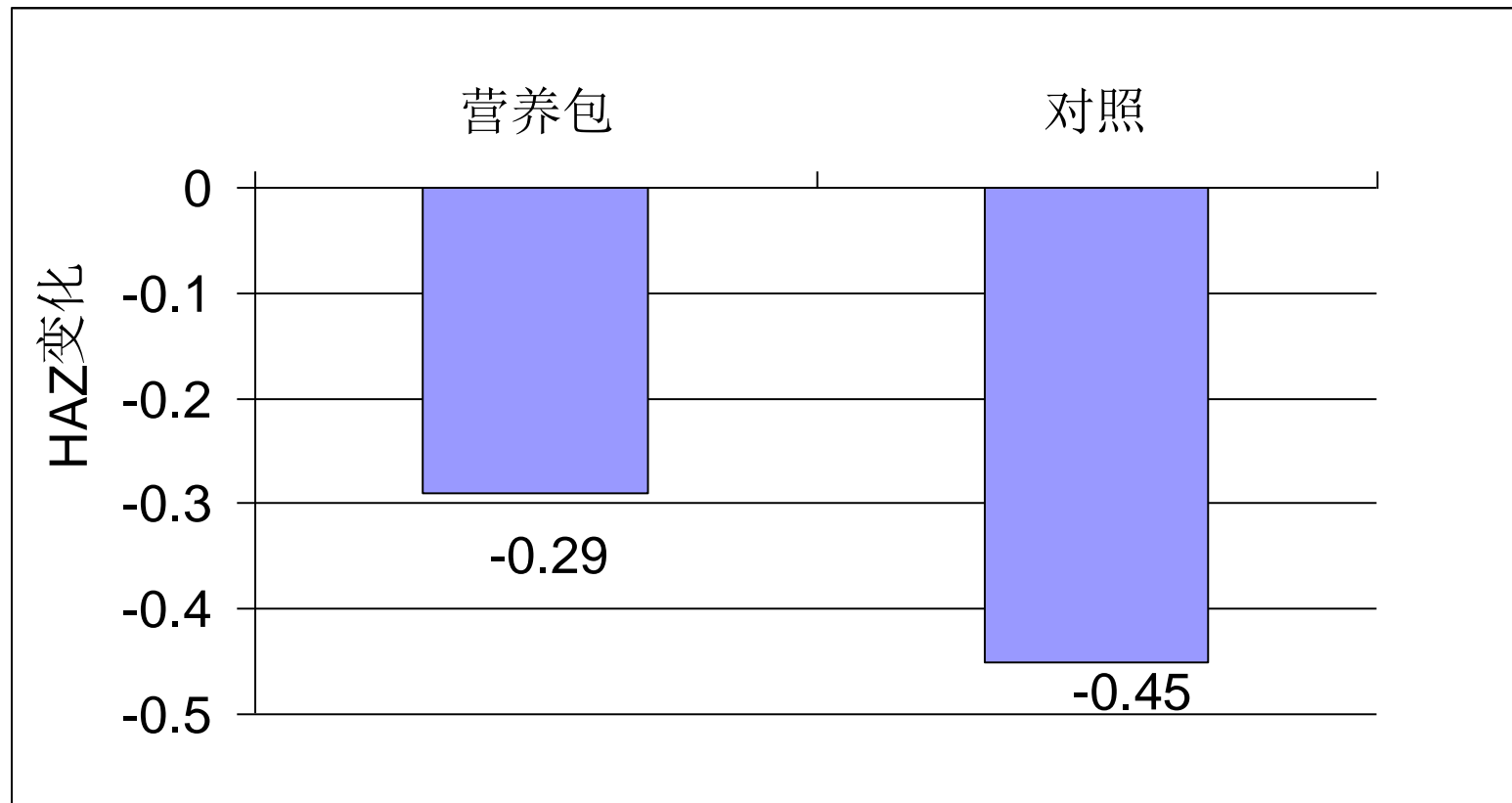
Composition of YYB (per sachet)

10g whole soybean powder

Added nutrients:

Vit A	250ug	Vit D	5ug
Vit B1	0.3mg	Vit B2	0.3mg
Vit B12	0.3ug	Folic acid	50ug
Iron	5mg	Zinc	5mg

The Pilot Study Project of YYB

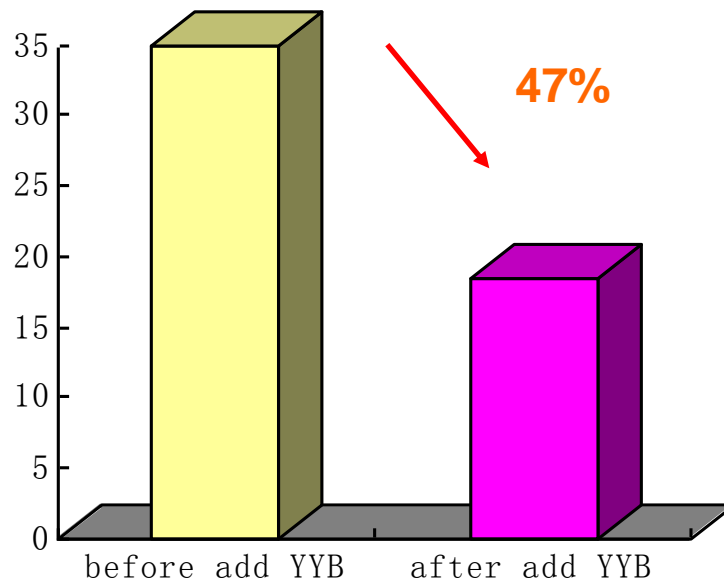


Z-score of children aged 24 m with and without YYB

(1500 children aged from 6-24m)

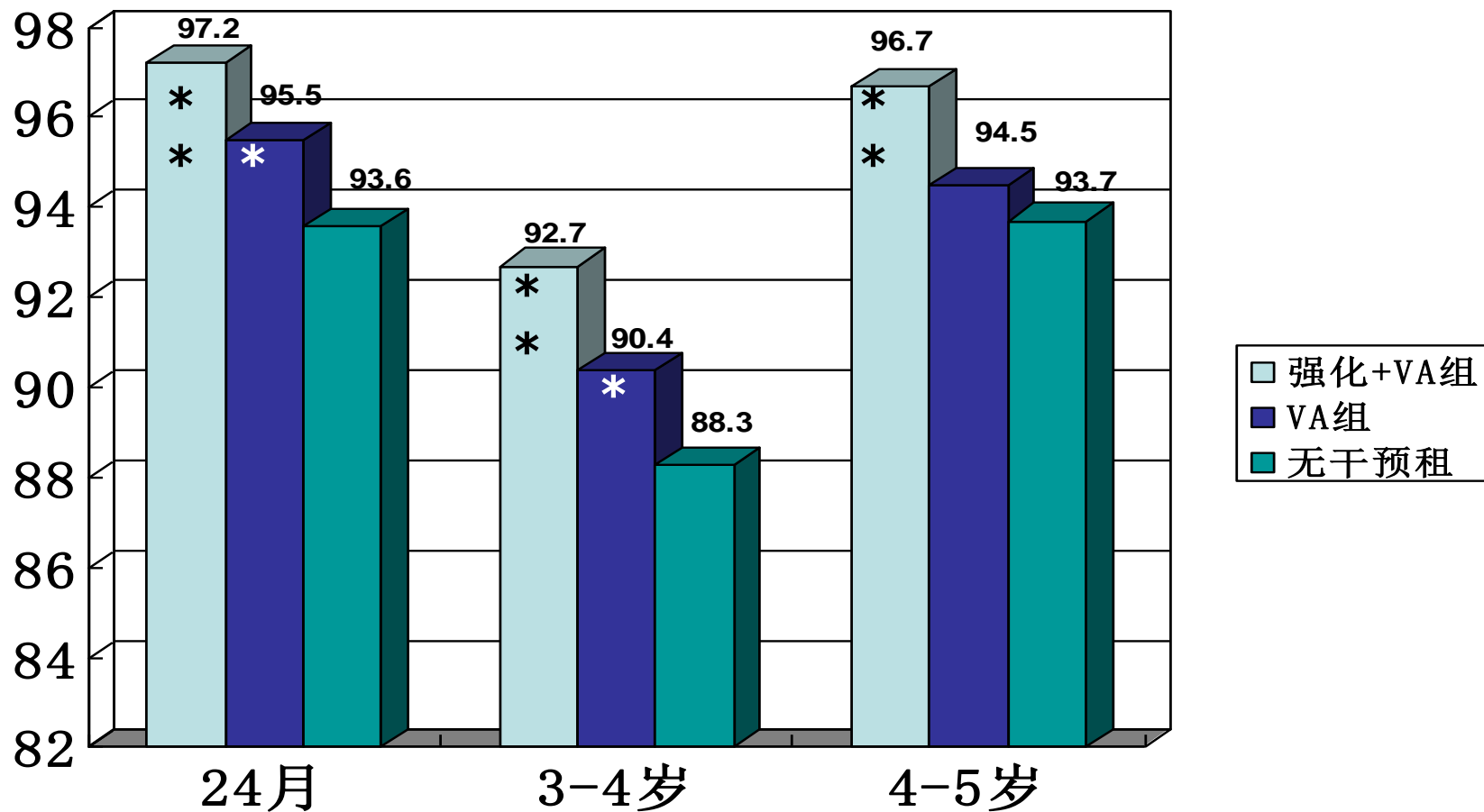
陈春明等资料

The Pilot Study Project of YYB



Incidence of anemia %

Developmental Quotient of Children using YYB



More Projects of YYB

- The more studies on the effectiveness of YYB carried out by DAI Yaohua, ZHU Zonghan (Capital Institute of Pediatrics); LU Mang(China Development Research Foundation) ; CHEN Chungming (CDC and UNICEF)(in Wenchuan earthquake-hit areas)
- The results from all those studies showed that :
YYB can act quickly on improving nutritional status with more than 30% of reduction of the prevalence of anemia, under-weight and stunting;
- This means, by fortifying homemade complementary food, the nutritional content of food can better meet the needs of infant and young children before the change of weaning feeding habits.

Approaches for nutrition improvement for infants and young children is **Ready for policy making**

Based on the achievement of the large scale application of YYB among Chinese children in the rural areas:

- ⌘ The practice was evidence-based;
- ⌘ The positive impacts of YYB for children under 2 have been proved in large scale applications;
- ⌘ The cost is low – 0.6 yuan/sachet.

Practice accelerates process of policy-making!

Scale up YYB in Rural China

Three mechanisms to scale up :

- **Donation model**
- **Government support model**
- **Social business model**

YYB Program would be One of the largest programs in the Global 1000 Days Movement.

Scaling up YYB in Rural China

Donation model:

- **WHO and UNICEF : IYCF Project in Mei County in 2009**
- **China CDC, UNICEF: YYB Project in Wen-chuang earthquake-hit areas 2008 – 2012**
- **GAIN: YYB Project in Shanxi Province in 2009**
- **China Development Research Foundation : ECD Project in Gengshu Province since 2009.**

Scaling up YYB in Rural China

Donation model:

- China Children's Foundation:
National Movement on Control of Children's Anemia since 2010 (75 counties in 11 Provinces)
- China Foundation of Poverty Improvement :
Program on IYCF in Rural areas in 2011

Scale up YYB in Rural China

Government Support

National programs on nutrition improvement in young children in rural areas since 2012 (poverty-stricken counties) (YYB + Health education)

- 100 counties in 10 provinces in 2012
- 300 counties in 21 provinces in 2014 (50% villages)
- 300 counties in 21 provinces in 2015 (100% villages)

More than 1.5 million babies aged from 6 to 24 months received YYB.

- planning to extend to all 680 poor counties in China in two years.

Scaling up YYB in Rural China

Social Business :

- **Tian-Tian-Ain Co. : IYCF Project in 30 counties since 2010**
- **NutriGo Co.: YYB Project in Hubei and Anhui Province since 2011**

Make connection between economic growth and child health

One of the most important lessons learned from the experiences is that:

- the rapid economic growth provided us great opportunities and resources to improve child health,**
- but, we should also recognize that the resources and opportunities did not come spontaneously to children's needs.**
- People in China today struggle greatly to receive a portion of the resources available to them throughout the country. But how do we make sure these resources are distributed equitably, particular for our children.**

Transform the results of economic growth to child health

- **Children have no voice and no choice.
They cannot express their needs and rights.
They require someone to speak for them.**
- **Therefore, we, as pediatricians , should take
the responsibility and try our best to ensure
the connection between the economic
growth and the health of our children is not
lost.**

How can we make the results of economic growth lead to greater child health?

Three important things we should do :

- **Advocacy**
- **Research**
- **Scaling up**

Advocacy

One is advocacy for children through demonstrating to policy-makers to the importance of early childhood investment.

The impact would not only benefit children, but also to human development and the nation's future.

Research and study

•Secondly, through our research and studies, we must find the best solutions for child health.

We carried out studies to identify the priority issues related to child's survival and health. At the same time, we carried out pilot studies to find the way to solve those problems.

Scaling up

- **Thirdly, as a result, the most important objective is to scale up the pilot project to wider areas and to finally make it a national policy.**



A little YYB - baby's better future

