

## RECOMMENDATIONS

### **BODY FATNESS**

Be as lean as possible within the normal range of body weight

### **PHYSICAL ACTIVITY**

Be physically active as part of everyday life

### **FOODS AND DRINKS THAT PROMOTE WEIGHT GAIN**

Limit consumption of energy-dense foods  
Avoid sugary drinks

### **PLANT FOODS**

Eat mostly foods of plant origin

### **ANIMAL FOODS**

Limit intake of red meat and avoid processed meat

### **ALCOHOLIC DRINKS**

Limit alcoholic drinks

### **PRESERVATION, PROCESSING, PREPARATION**

Limit consumption of salt  
Avoid mouldy cereals (grains) or pulses (legumes)

### **DIETARY SUPPLEMENTS**

Aim to meet nutritional needs through diet alone

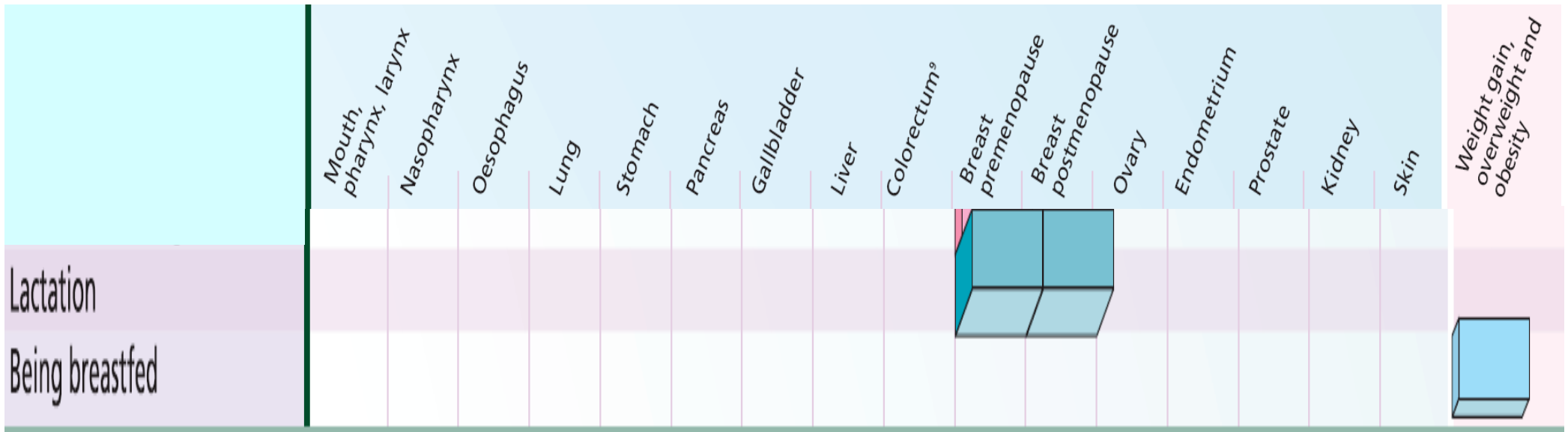
### **BREASTFEEDING**

Mothers to breastfeed; children to be breastfed

### **CANCER SURVIVORS**

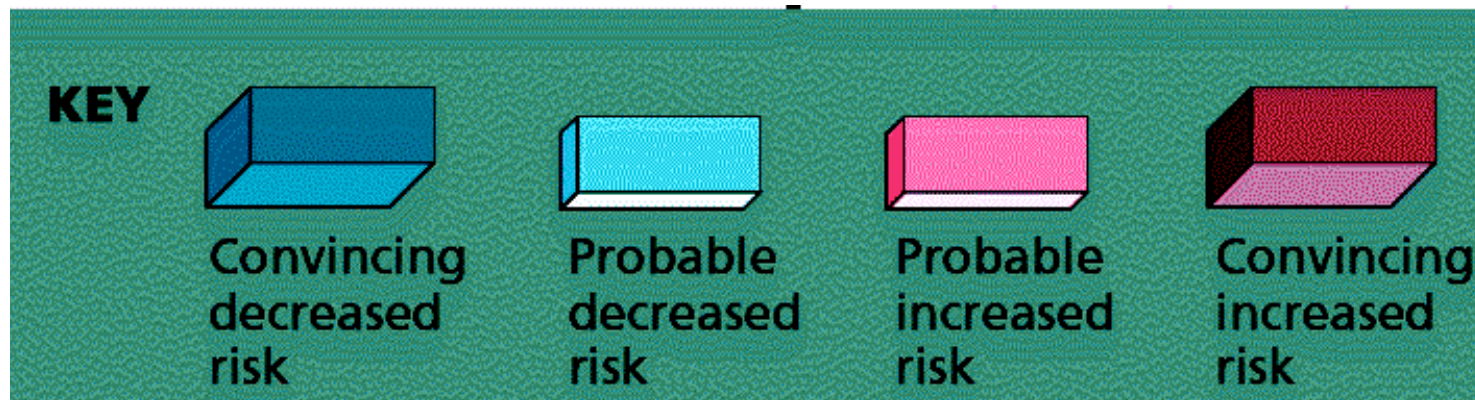
Follow the recommendations for cancer prevention





# BREASTFEEDING

**Mothers to breastfeed; children to be breastfed**





# Mothers to breastfeed; children to be breastfed<sup>1</sup>

## PUBLIC HEALTH GOAL

The majority of mothers to breastfeed exclusively,  
for six months <sup>2 3</sup>

## PERSONAL RECOMMENDATION

Aim to breastfeed infants exclusively <sup>2</sup> up to six months and  
continue with complementary feeding thereafter <sup>3</sup>

<sup>1</sup> Breastfeeding protects both mother and child

<sup>2</sup> 'Exclusively' means human milk only, with no other food or drink, including water

<sup>3</sup> In accordance with the WHO Global Strategy on Infant and Young Child Feeding

It does not imply that in any population where over half of all mothers breastfeed exclusively for six months that the ultimate goal has been reached:

The greater the proportion, the better. Its achievement will require increased support from regulatory authorities and from the manufacturers of infant formulas. Policy-makers are encouraged to frame goals according to their specific circumstances.





## Justification:

*The evidence on cancer as well as other diseases shows that sustained, exclusive breastfeeding is protective for the mother as well as the child.*

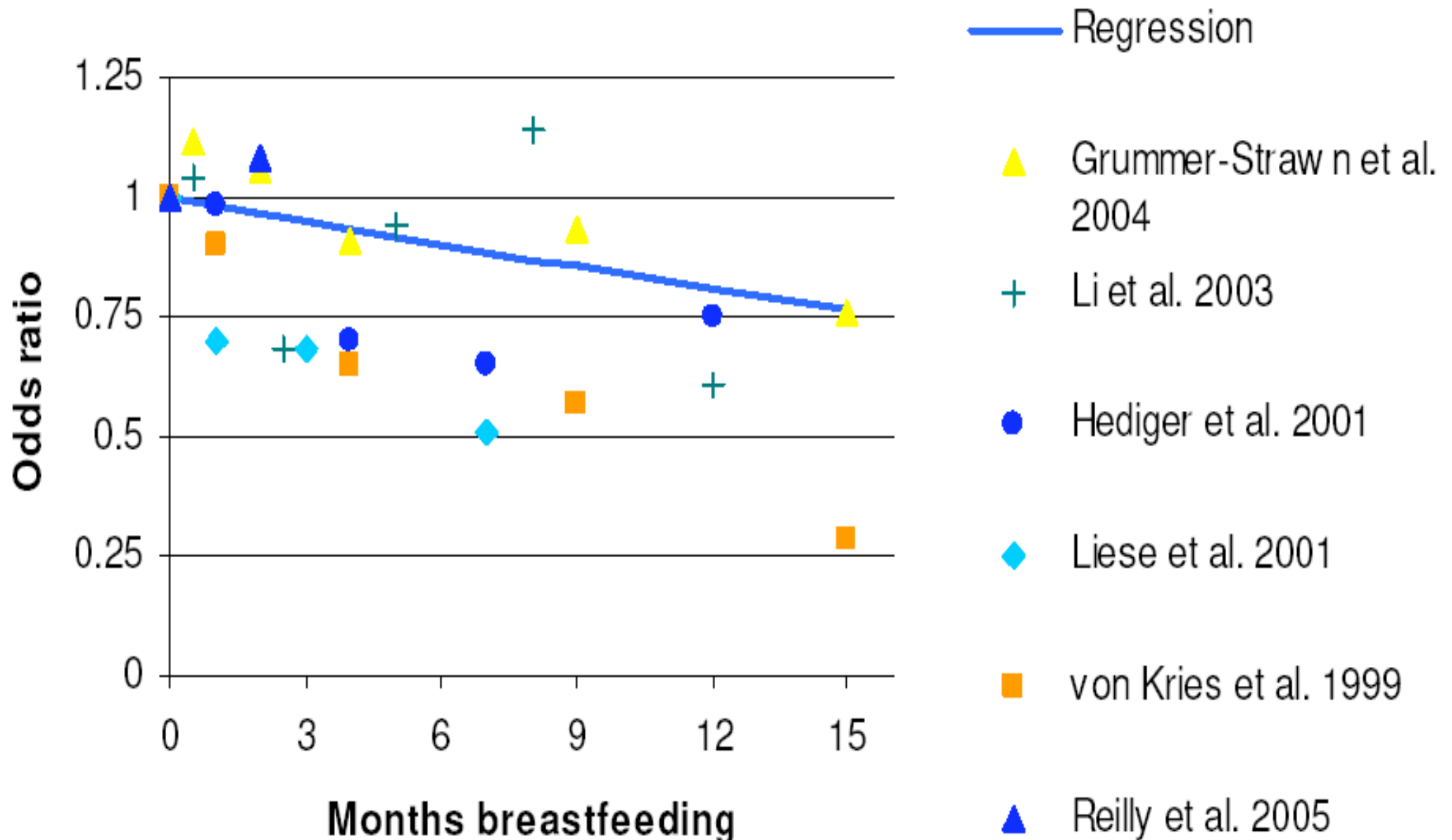
- **to prevent breast cancer in mothers,**
- **to prevent overweight and obesity in children.**

# Health effects of breastfeeding I

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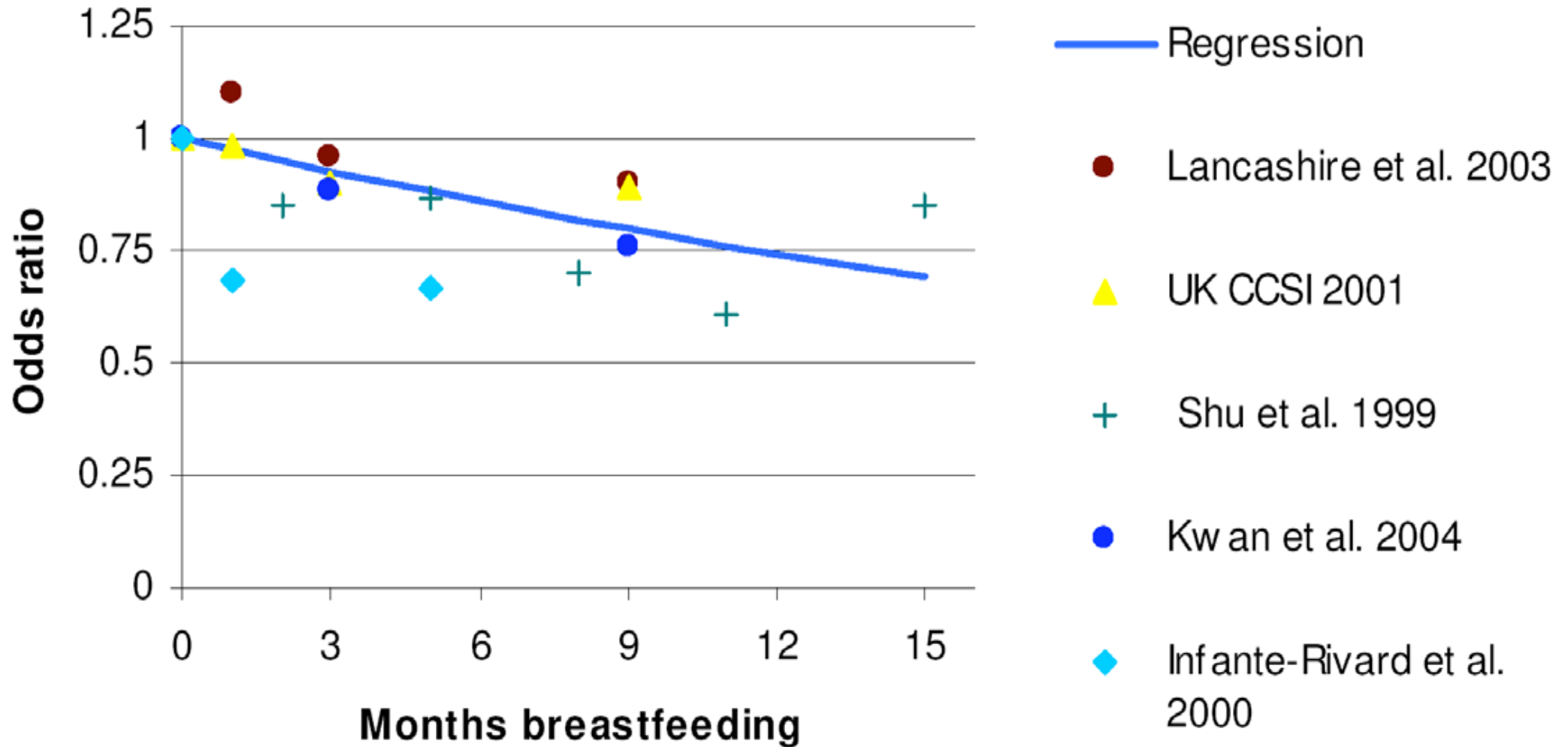
- Breastfeeding has positive health effects, with the largest health gain realized through policy that focuses on encouraging all mothers to start breastfeeding.
- **The literature review shows that breastfeeding has beneficial health effects in both the short and the longer term.**
- **There is convincing evidence that the incidence of obesity is reduced in breastfed children.**
- Probably breastfed children have enhanced intellectual and motor development. Probably Breastfeeding is related to a reduction of type I diabetes mellitus and **leukaemia**.

# Obesity





# Acute lymphatic leukaemia



***The Panel emphasises the importance of exclusive breastfeeding*** (other than vitamins where locally recommended), **with no other sustenance, including water.**

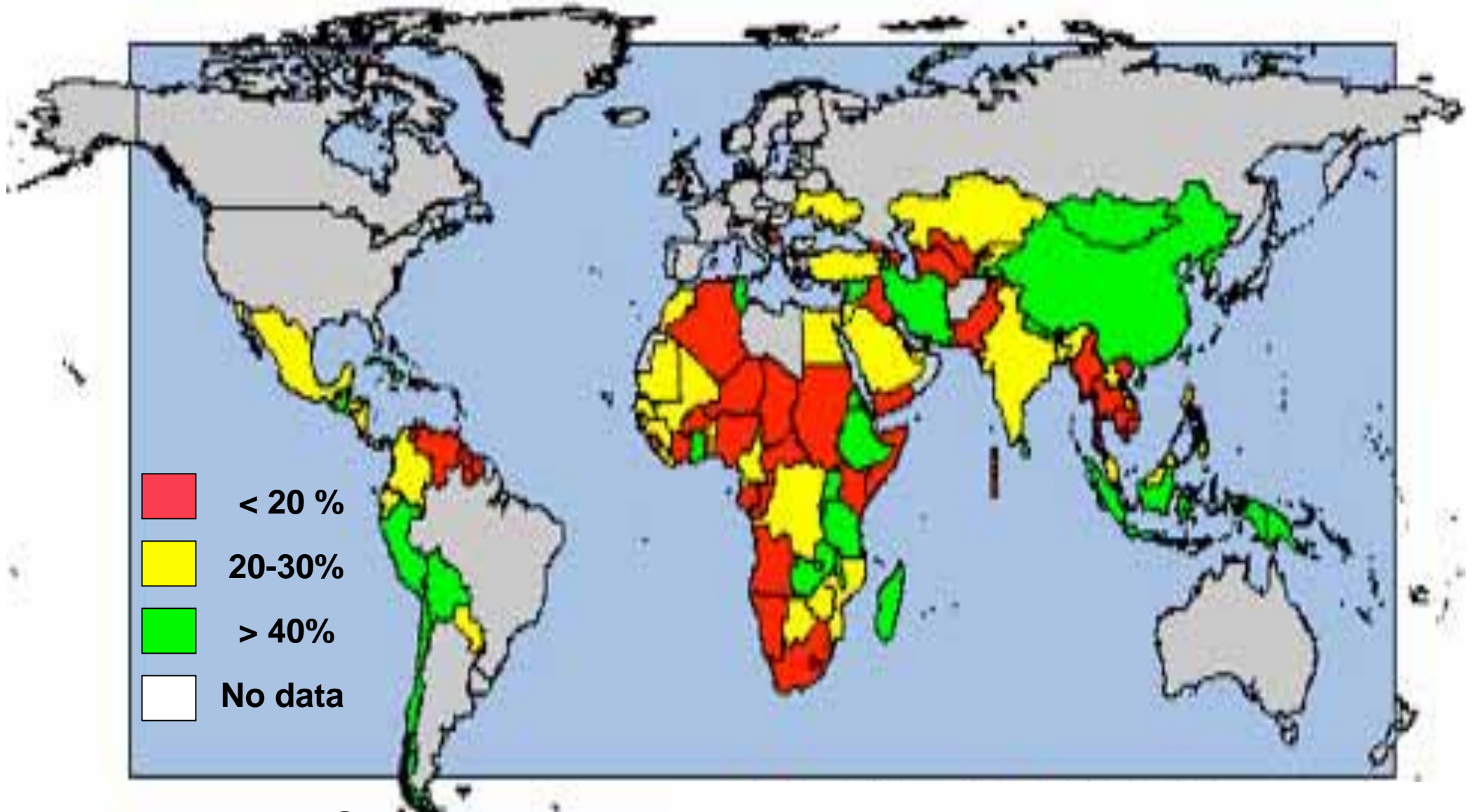
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Special situations where breastfeeding is recommended with caution or is not advised. The main special situation is when mothers have HIV/AIDS, UN Global Strategy as revised in late 2006 states:

**‘Exclusive breastfeeding is recommended for HIV-infected women for the first six months of life unless replacement feeding is acceptable, feasible, affordable, sustainable, and safe for them and their infants before that time.’**

# % Breast feeding to 5 m of age

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**UNICEF state of the world's children 2006**

# **Mother-to-child transmission of HIV-1 infection during exclusive breastfeeding in the first 6 months of life: an intervention cohort study**

*Hoosen M Coovadia, Nigel C Rollins, Ruth M Bland, Kirsty Little, Anna Coutsooudis, Michael L Bennish, Marie-Louise Newell*

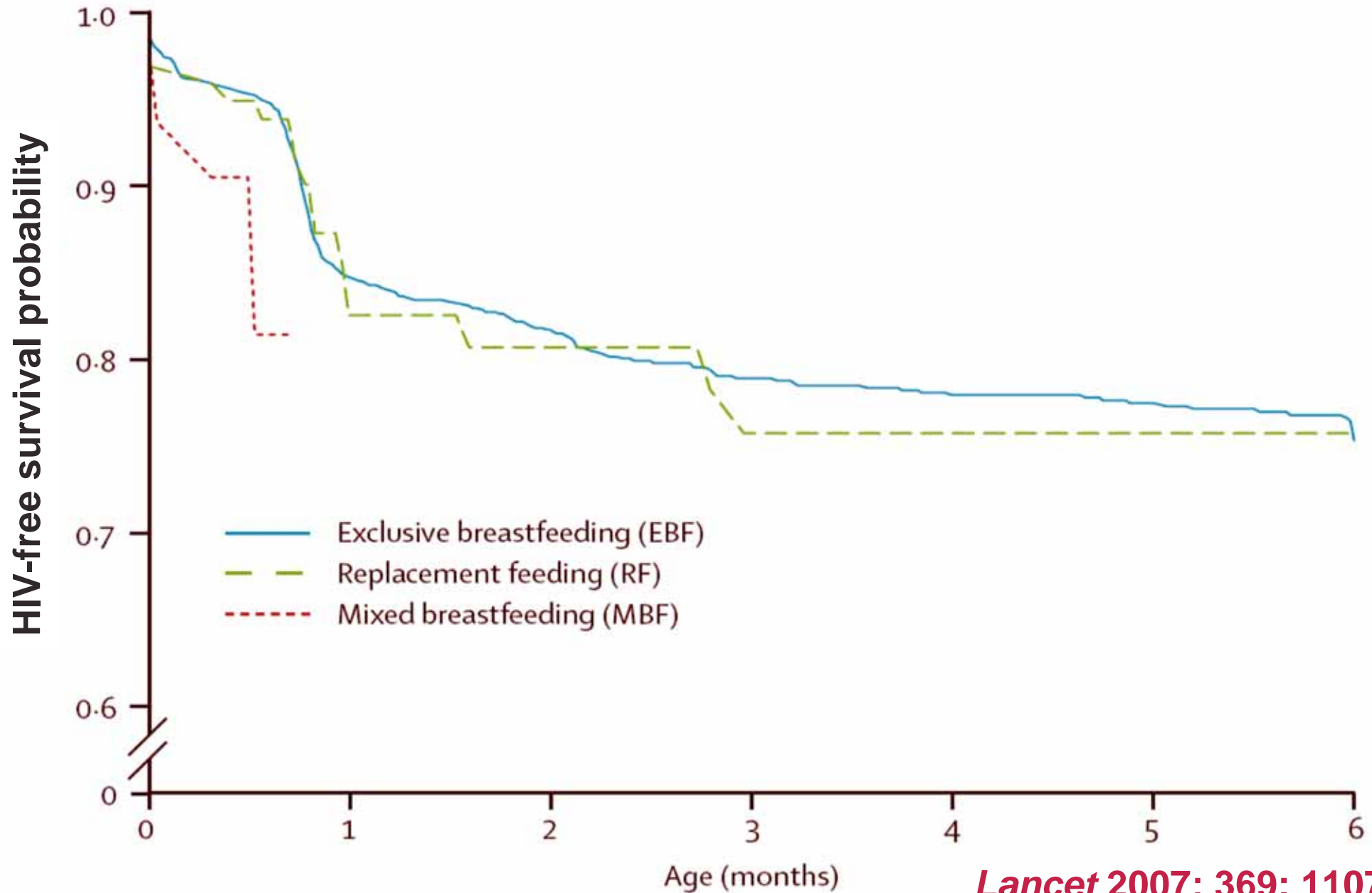
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**We assessed the HIV-1 transmission risks and survival associated with exclusive breastfeeding and other types of infant feeding; 2722 HIV-infected and uninfected pregnant women attending antenatal clinics in Kwa Zulu Natal, SA.**

**Breastfed infants who received solids were significantly more likely to acquire infection than were exclusively breastfed children HR 10.9, as were infants who at 12 weeks received both breast milk and formula milk HR 1.8**

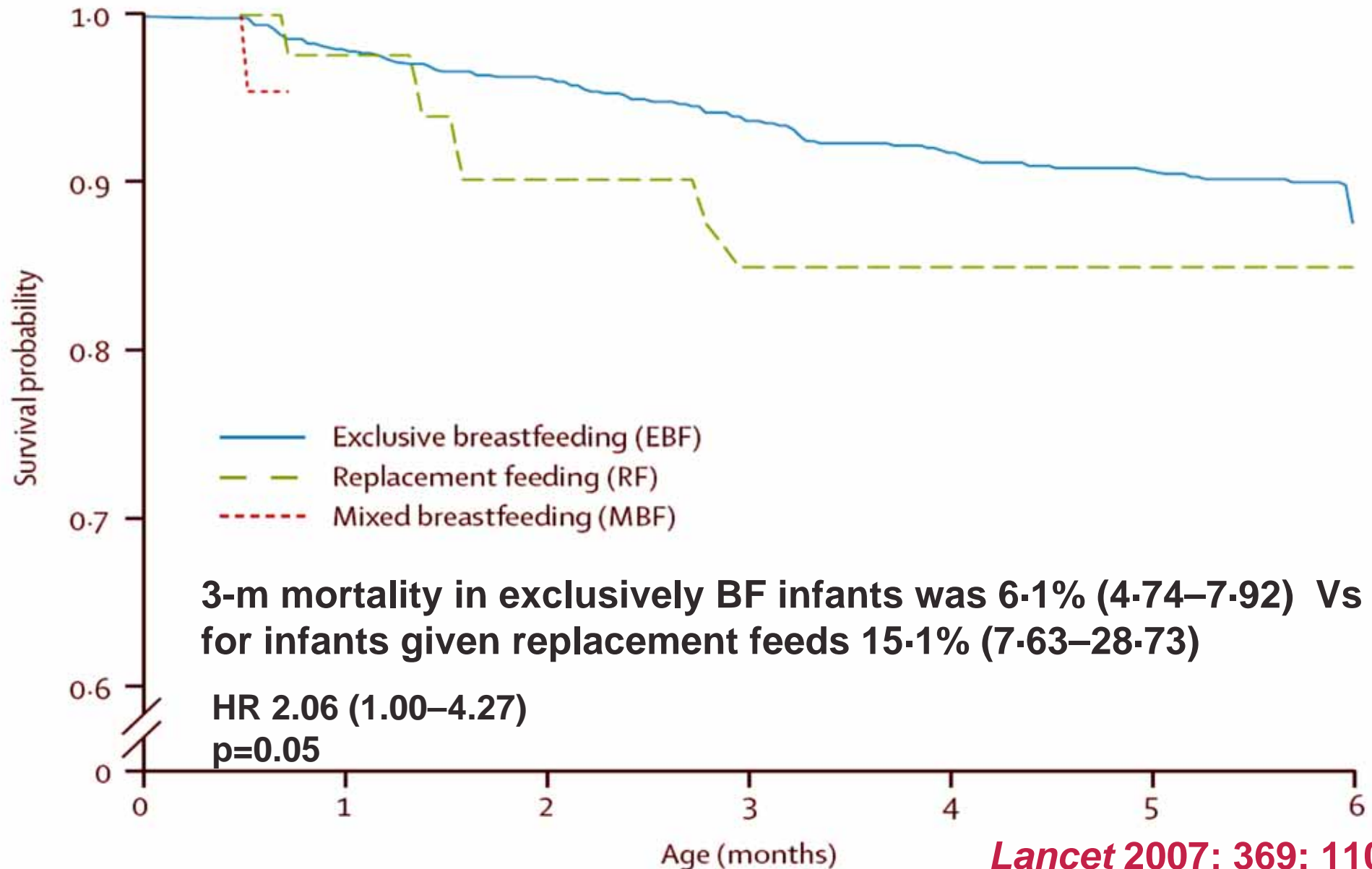
*Lancet 2007; 369: 1107-16*

# 6 month HIV-free survival by feeding type



*Lancet* 2007; 369: 1107–16

# Survival probability by feeding type





**The key finding of our study is the demonstration that early introduction of solid foods and animal milks increases HIV transmission compared with exclusive breastfeeding from birth.**

These data, together with evidence that exclusive breastfeeding can be supported in HIV-infected women, warrant revision of the present UNICEF, WHO, and UNAIDS infant feeding guidelines last revised in 2000.

The need for this review is reinforced by the reported drawbacks of free formula milk and WHO recommendations for the provision of highly active antiretroviral therapy to pregnant women with CD4-cell counts lower than 200 per  $\mu\text{L}$ .

***Lancet 2007; 369: 1107–16***

## Health effects of breastfeeding II

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- **Regarding the mother, there is convincing evidence for a protective effect of lactation on pre-menopausal breast and limited suggestive evidence for ovarian cancer. Incidence is lower among mothers who breastfed their infants longer.**
- The largest public health gain can be achieved when all newborns get breastfeeding for at least six months.
- Greater public health gain can be achieved by introducing breastfeeding to all newborns than through a policy only focusing on extending the lactation of women already breastfeeding beyond three months.

# FOOD, NUTRITION, PHYSICAL ACTIVITY, AND CANCER OF THE BREAST (PREMENOPAUSE)

In the judgement of the Panel, the factors listed below modify the risk of cancer of the breast (premenopause). Judgements are graded according to the strength of the evidence.

	<b>DECREASES RISK</b>	<b>INCREASES RISK</b>
<b>Convincing</b>	<b>Lactation</b>	<b>Alcoholic drinks</b>
<b>Probable</b>	<b>Body fatness</b>	<b>Adult attained height<sup>1</sup></b> <b>Greater birth weight</b>
<b>Limited — suggestive</b>	<b>Physical activity<sup>2</sup></b>	



# FOOD, NUTRITION, PHYSICAL ACTIVITY, AND CANCER OF THE BREAST (POSTMENOPAUSE)

In the judgement of the Panel, the factors listed below modify the risk of cancer of the breast (postmenopause). Judgements are graded according to the strength of the evidence.

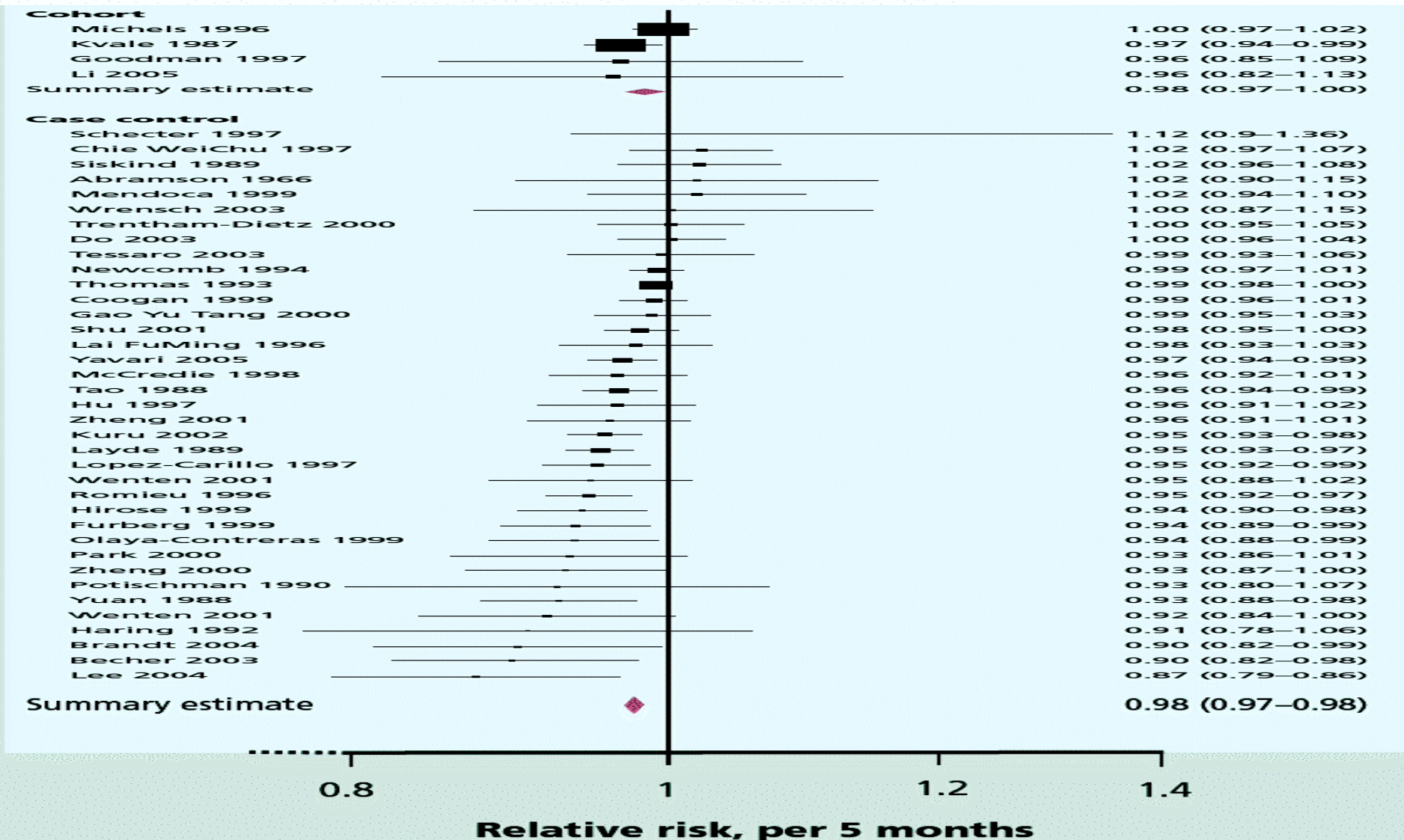
	<b>DECREASES RISK</b>	<b>INCREASES RISK</b>
<b>Convincing</b>	<b>Lactation</b>	<b>Alcoholic drinks</b> <b>Body fatness</b> <b>Adult attained height<sup>1</sup></b>
<b>Probable</b>	<b>Physical activity<sup>2</sup></b>	<b>Abdominal fatness</b> <b>Adult weight gain</b>
<b>Limited — suggestive</b>		<b>Total fat</b>



**Figure 6.3.1**

**Total duration of lactation and breast cancer (age unspecified); cohort and case-control studies**

**Relative risk (95% CI)**



**The evidence on lactation and breast cancer — the most common female hormone-related cancer — is impressive.**

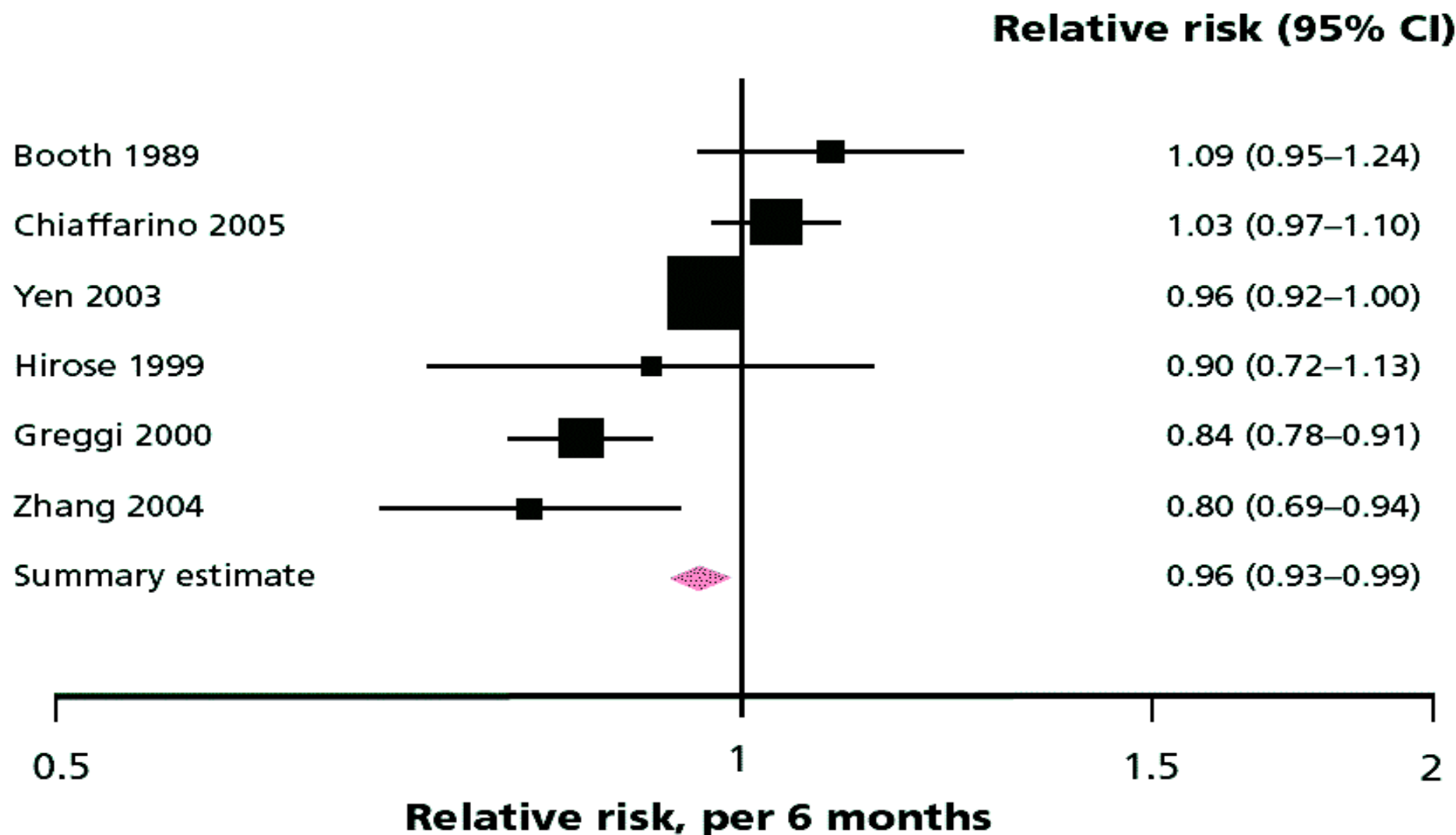
**Much of this has been published since the mid-90s. The evidence that lactation protects against breast cancer, at all ages, is convincing.**



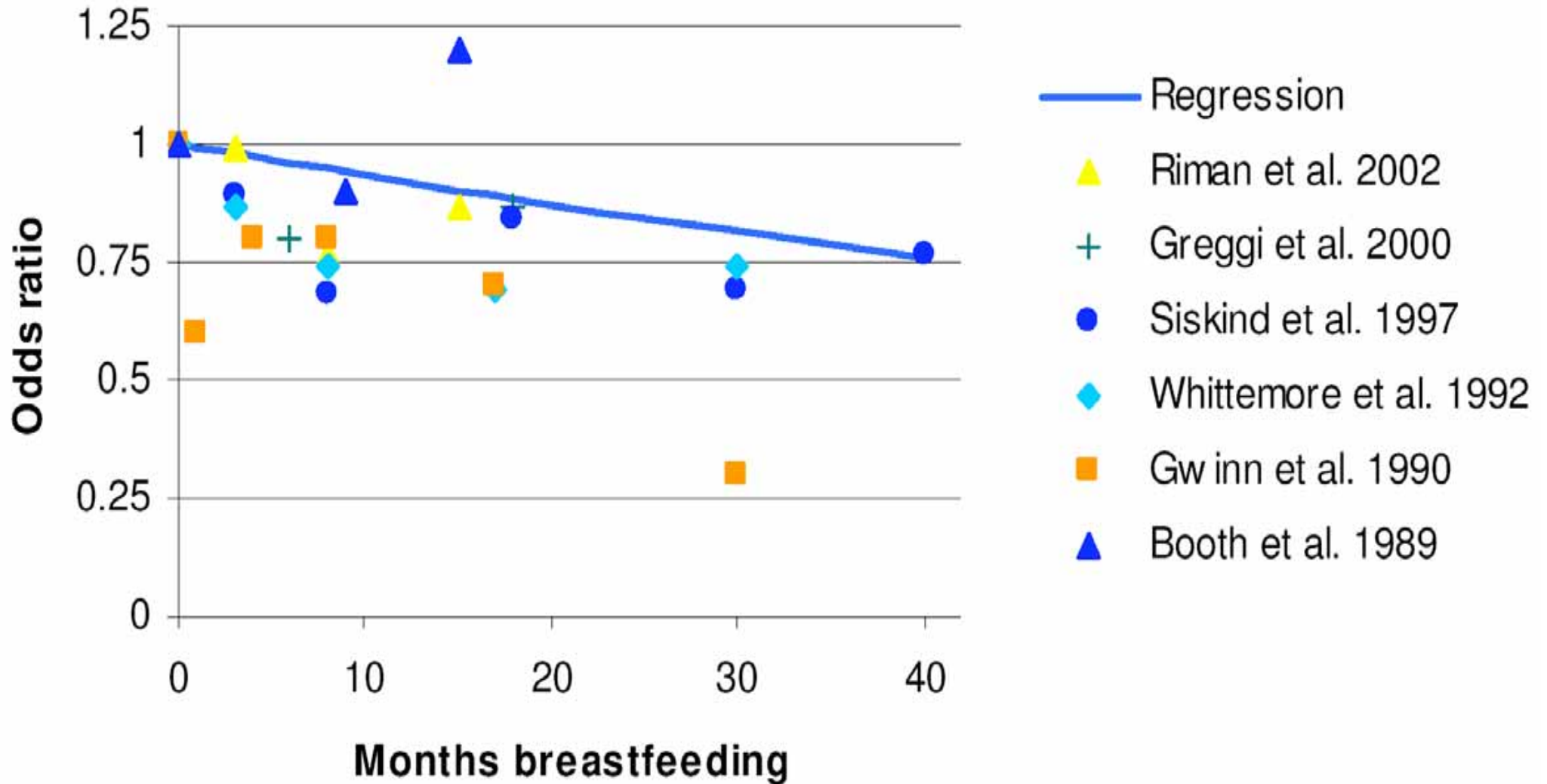
# FOOD, NUTRITION, PHYSICAL ACTIVITY, AND CANCER OF THE OVARY

In the judgement of the Panel, the factors listed below modify the risk of cancer of the ovary. Judgements are graded according to the strength of the evidence.

	<b>DECREASES RISK</b>	<b>INCREASES RISK</b>
<b>Convincing</b>		
<b>Probable</b>		<b>Adult attained height<sup>1</sup></b>
Limited — suggestive	Non-starchy vegetables <sup>2</sup> Lactation	

**Figure 6.3.2****Total duration of lactation and ovarian cancer;  
case-control studies**

# Ovarian cancer



# Conclusions

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This review suggests that the combination of specific exposures (environmental, nutritional or metabolic), hormonal responses related to accelerated growth at critical periods, adrenarchy, puberty, lactation and menarchy interacting with obesogenic diets affect cancer risk.

Life course modifications in early diet, nutrition, growth, physical activity patterns and body composition, may help to reduce this risk.

Following-up biomarker profiles that predict cancer may increase the effectiveness of nutritional intervention since epi- and genetic variability affect timing of growth and endocrine responses related to cancer risk.

Such approach should be part of a strategy to enhance effectiveness of interventions by focusing on reducing risk at critical time-windows in