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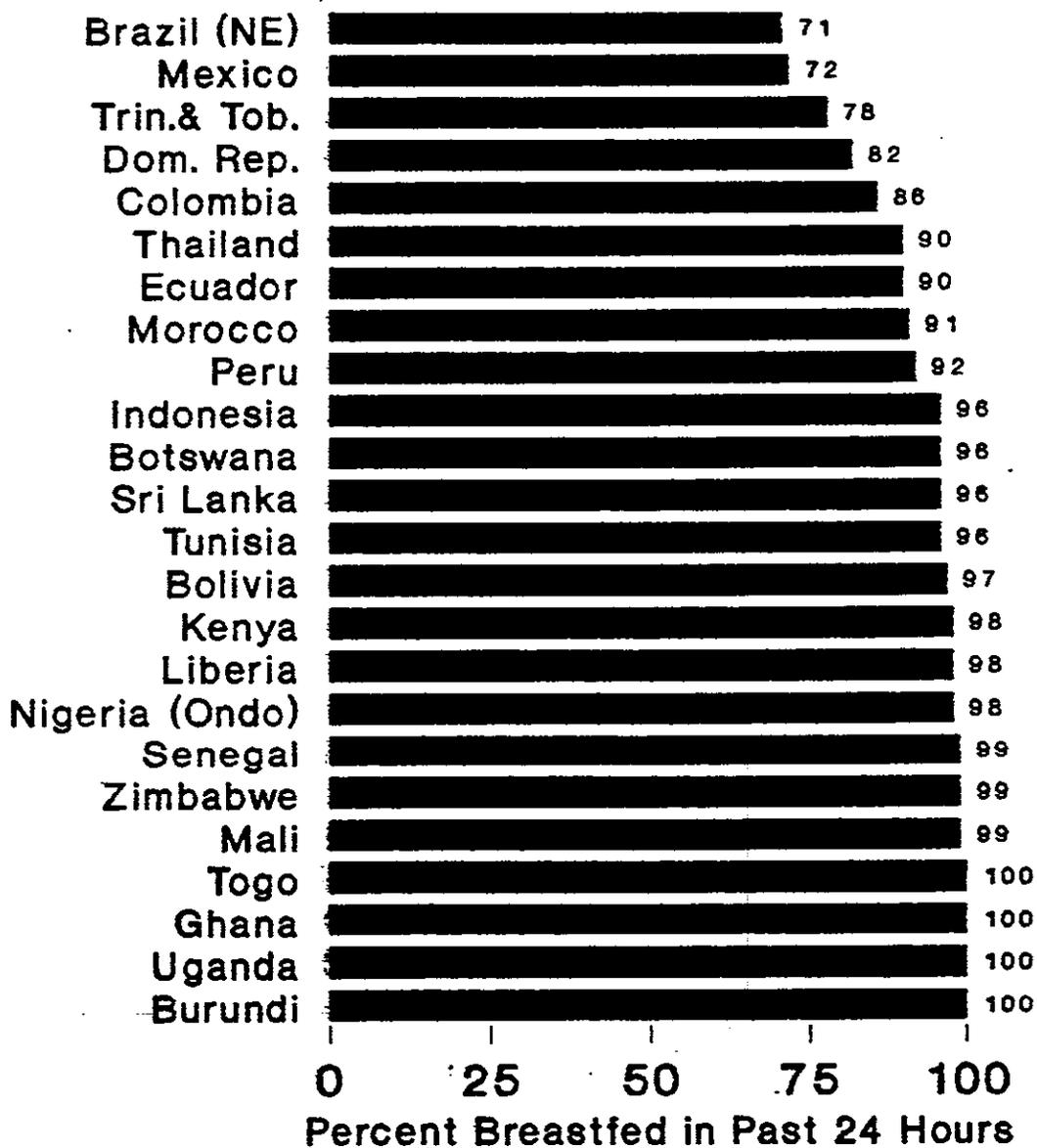
Nature and Magnitude of the Problem of Suboptimal Breastfeeding Practices

Mary Ann Anderson, Ph.D.
A.I.D.

**International Policymakers Meeting
On Breastfeeding, 30 July - 1 August, 1990,
Florence, Italy**

Percent of Infants 0-4 Months Breast Fed By Country

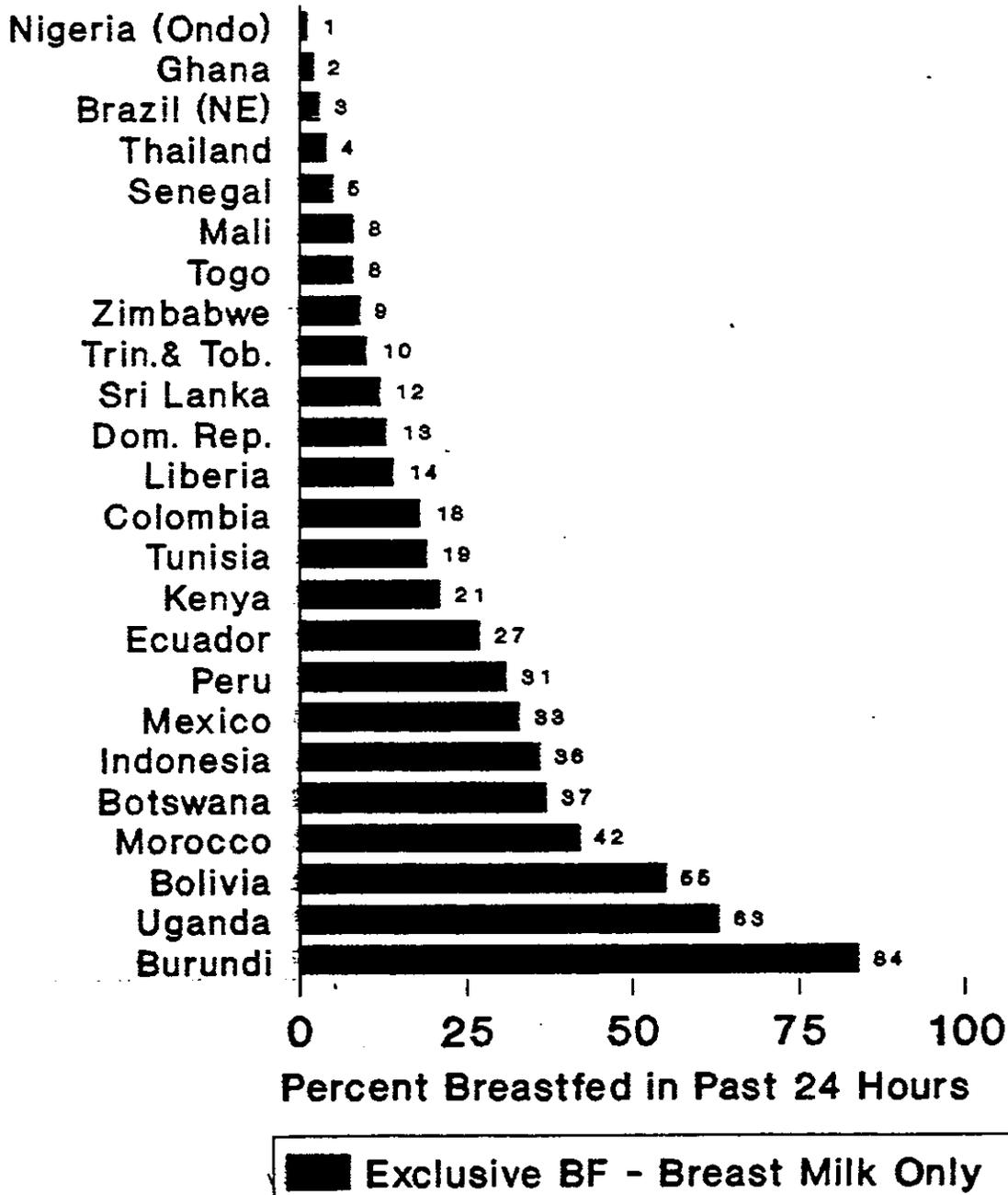
Ordered by Level of Breast Feeding - Lowest to Highest



Data from Demographic Health Surveys 1986-9

Percent of Infants 0-4 Months Breast Fed By Country

Ordered by Level of Exclusive BF - Lowest to Highest



Data from Demographic Health Surveys 1986-9

Definition of Exclusive Breastfeeding

- **Breastmilk Only**
- **Nursing Begins Within an Hour of Birth**
- **Demand Feeding**
- **Colostrum**
- **Frequent Feeding in 24 Hours (plus night feeds)**
- **Duration 4 to 6 Months**

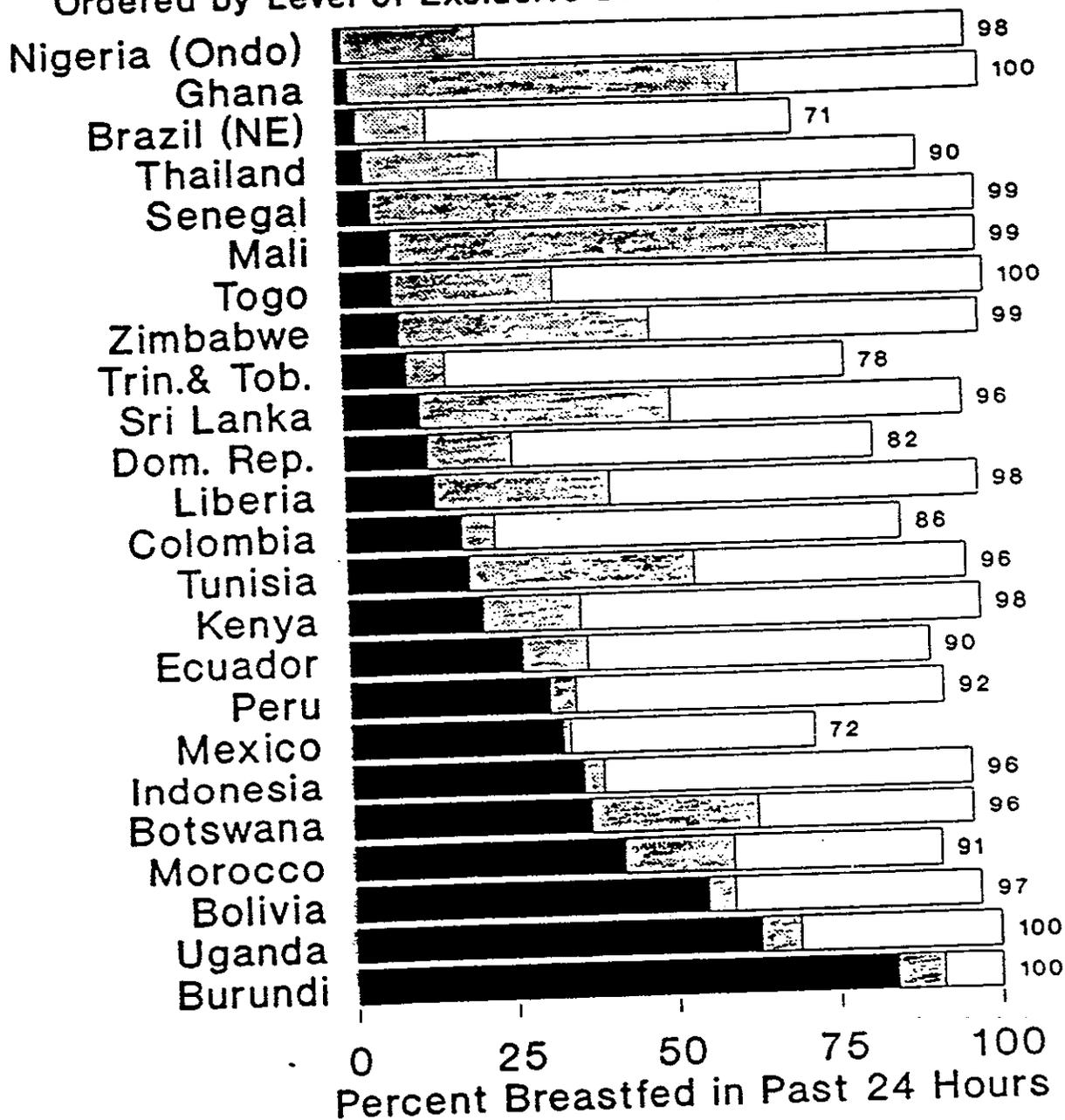
Source: Baumslag & Putney, Breastfeeding: The Passport to Life, NGO Committee on UNICEF, UNICEF : N.Y., 1989

Percent Breast Fed by Country

Infants 0-4 Months

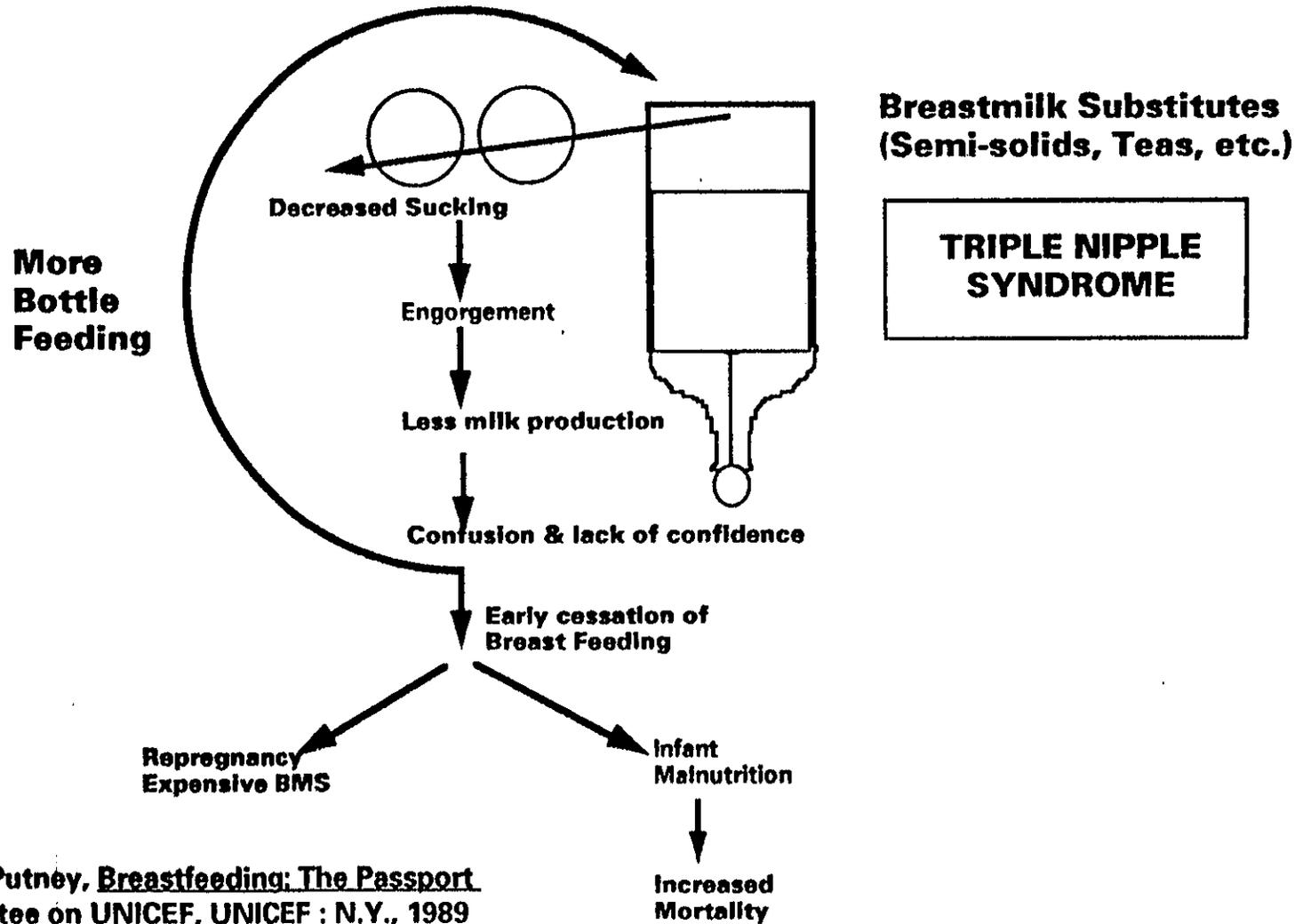
(Based on data from DHS 1986-9)

Ordered by Level of Exclusive BF - Lowest to Highest



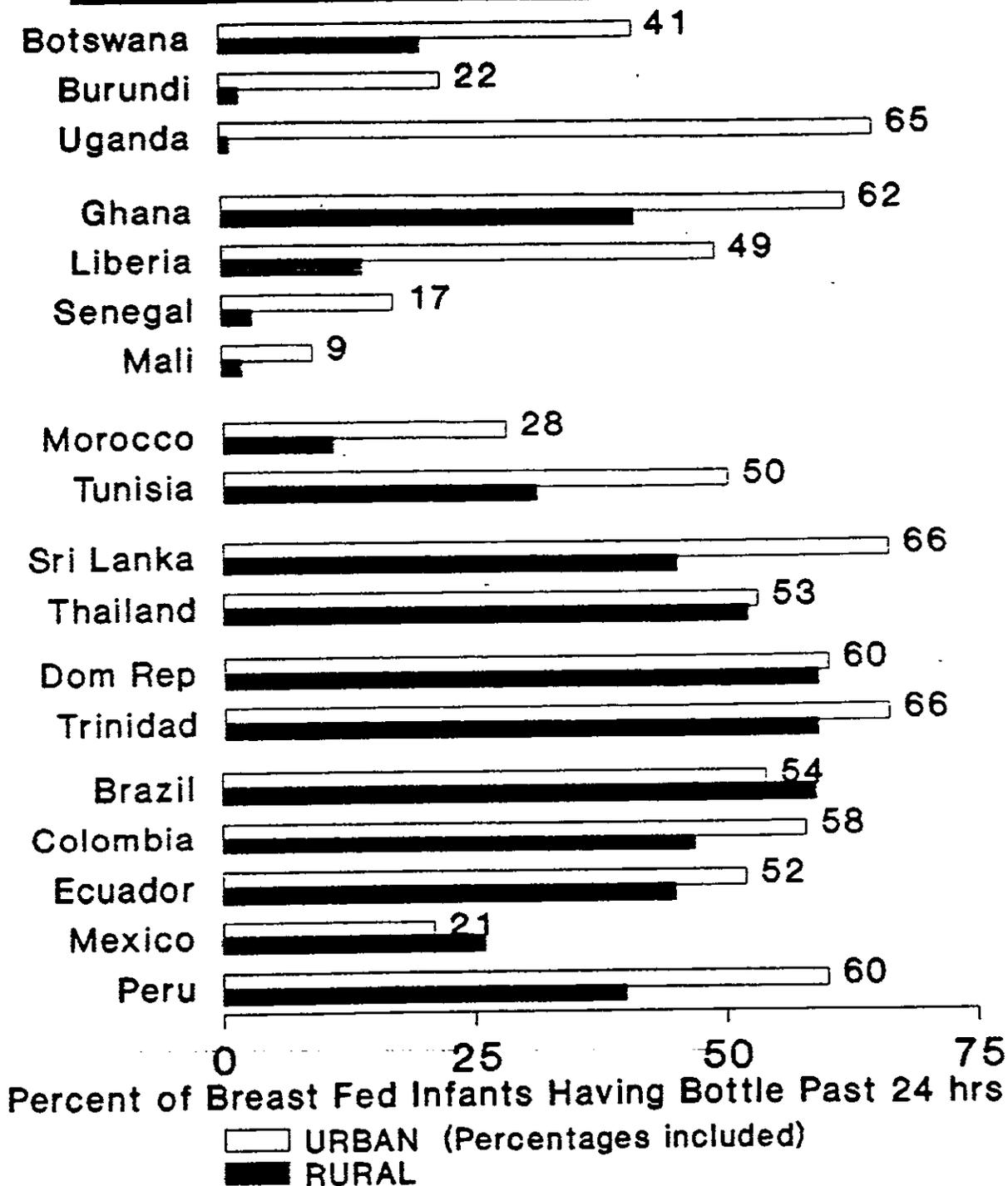
Exclusive BF
 BF+Water
 BF+Other

"Insufficient Milk" Cycle



Source: Baumslag & Putney, Breastfeeding: The Passport to Life. NGO Committee on UNICEF, UNICEF : N.Y., 1989

Percent Bottle Fed Urban vs Rural - Infants 0 - 4 Months



Data from DHS 1986-9

Graphed by LTS for Nutrition
Communication Project

EVIAN

Natural Spring Water

...Just because it's not in the baby aisle doesn't mean it's not
for babies

New York Times Ad, 1989.

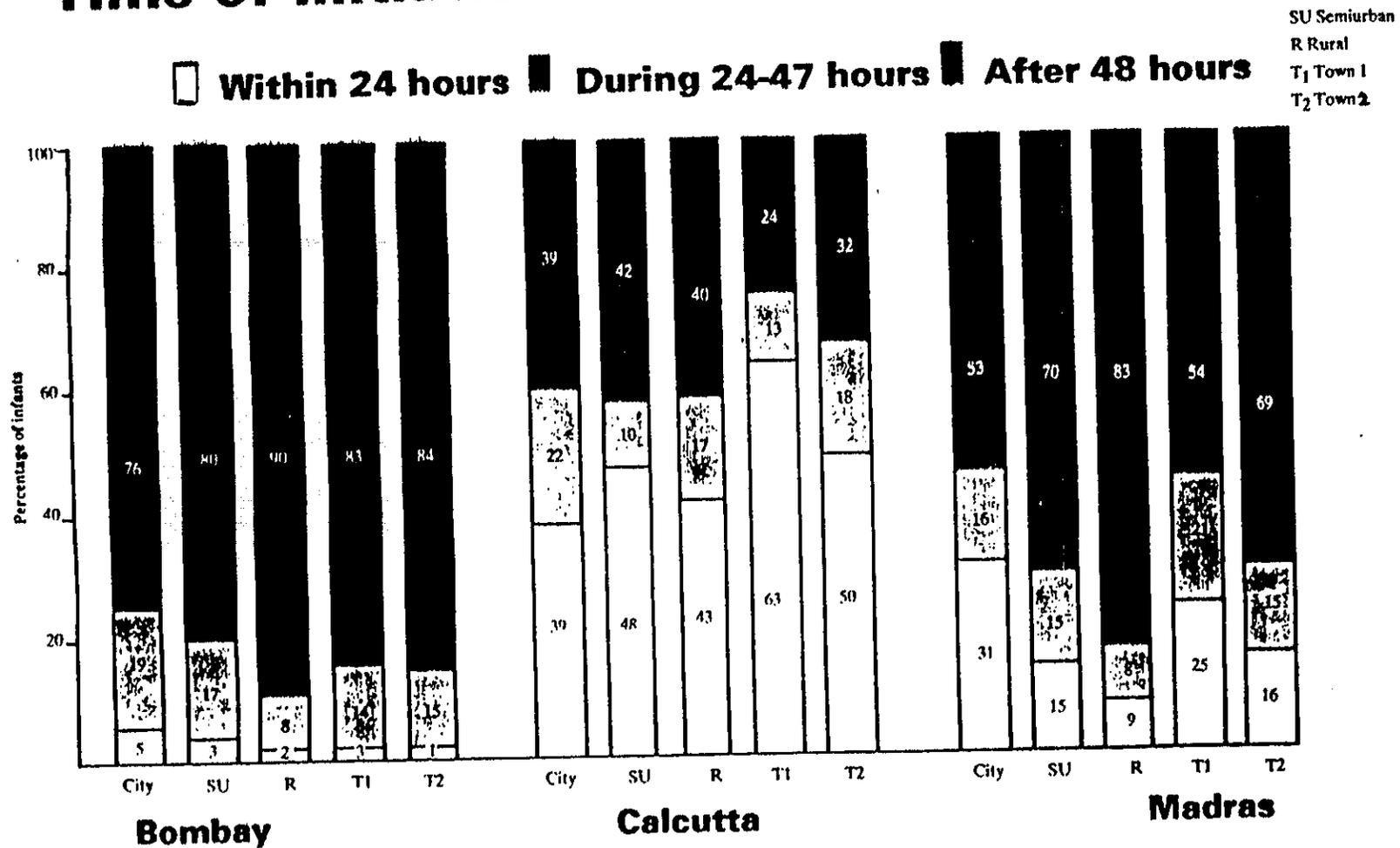
Exclusive Breastfeeding and Urinary Concentrations of Infants

County	Humidity	Temperature(C°)	Urinary Conc.
Jamaica	76%	28°	Normal
Lima, Peru	45%-96%	26°	Normal
Argentina	60%-80%	35°-39°	Normal
Hyderabad, India	15%-30%	37°-41°	Normal



Ref: Mothers and Children 6(1):4. 1987

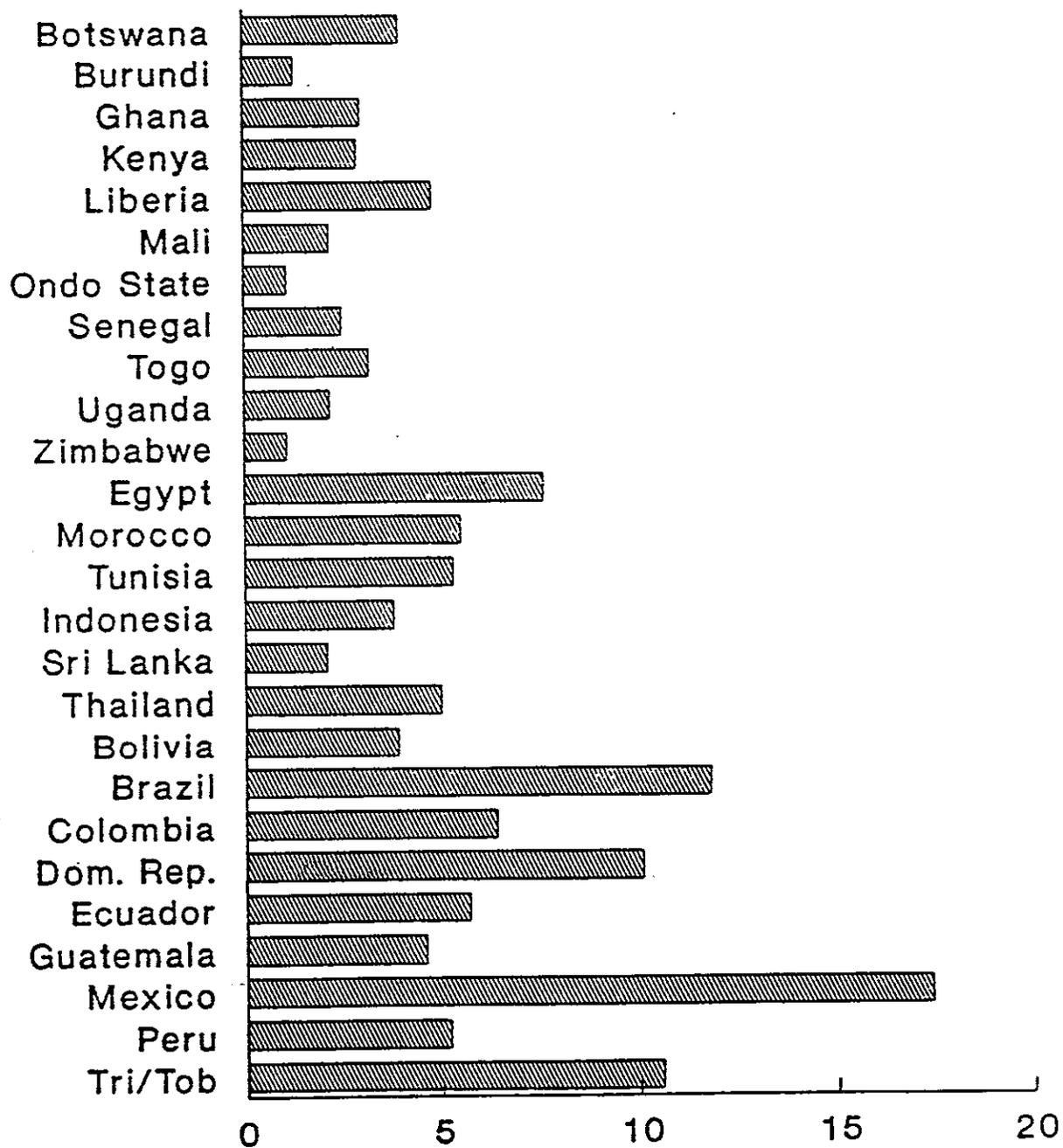
Time of Initiation of Breastfeeding, India



Source: Gopujkar, et al. 1986

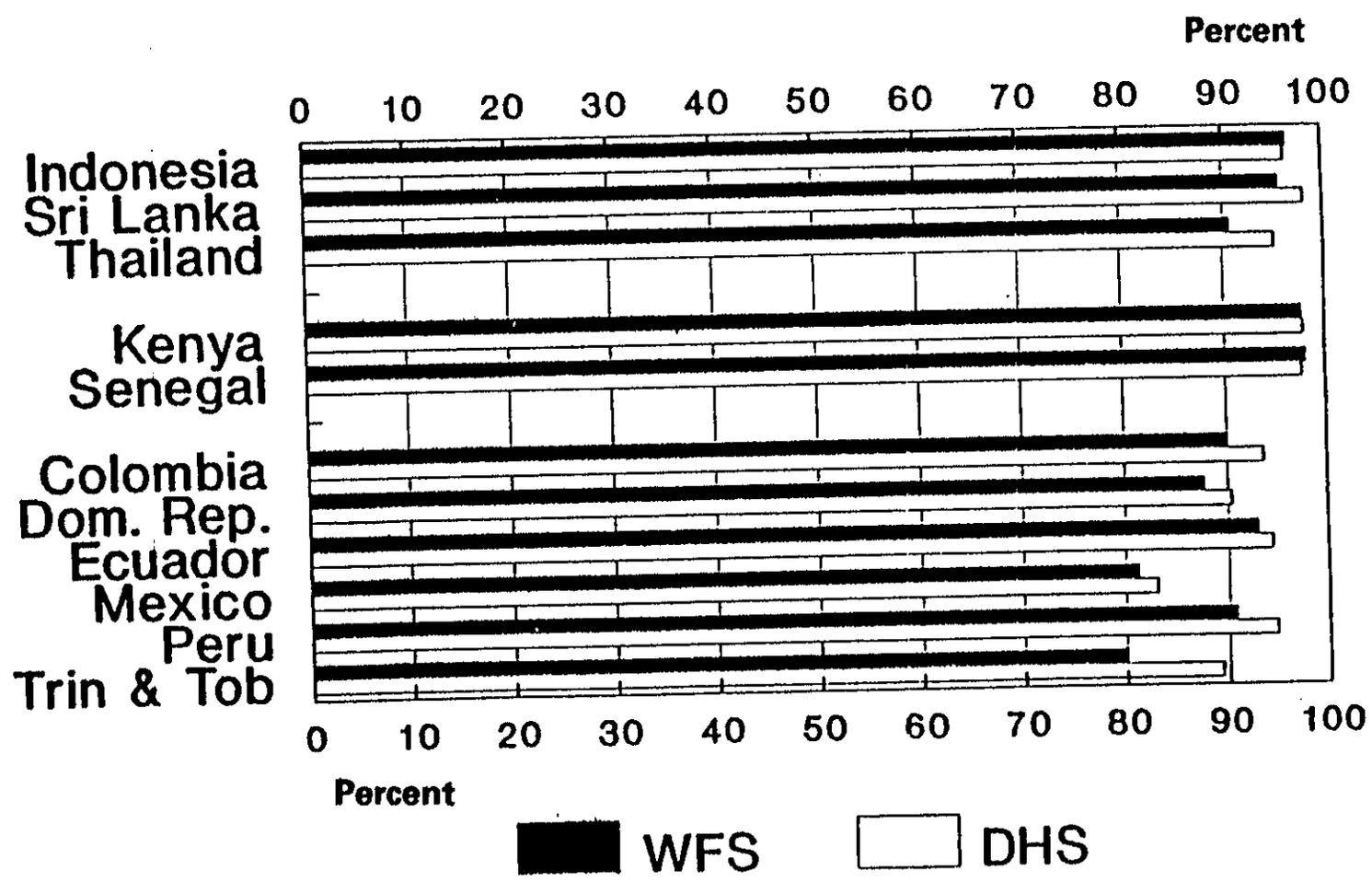
Nutrition Foundation of India, Scientific Report 4

Percentage of Births Who Were Never Breastfed



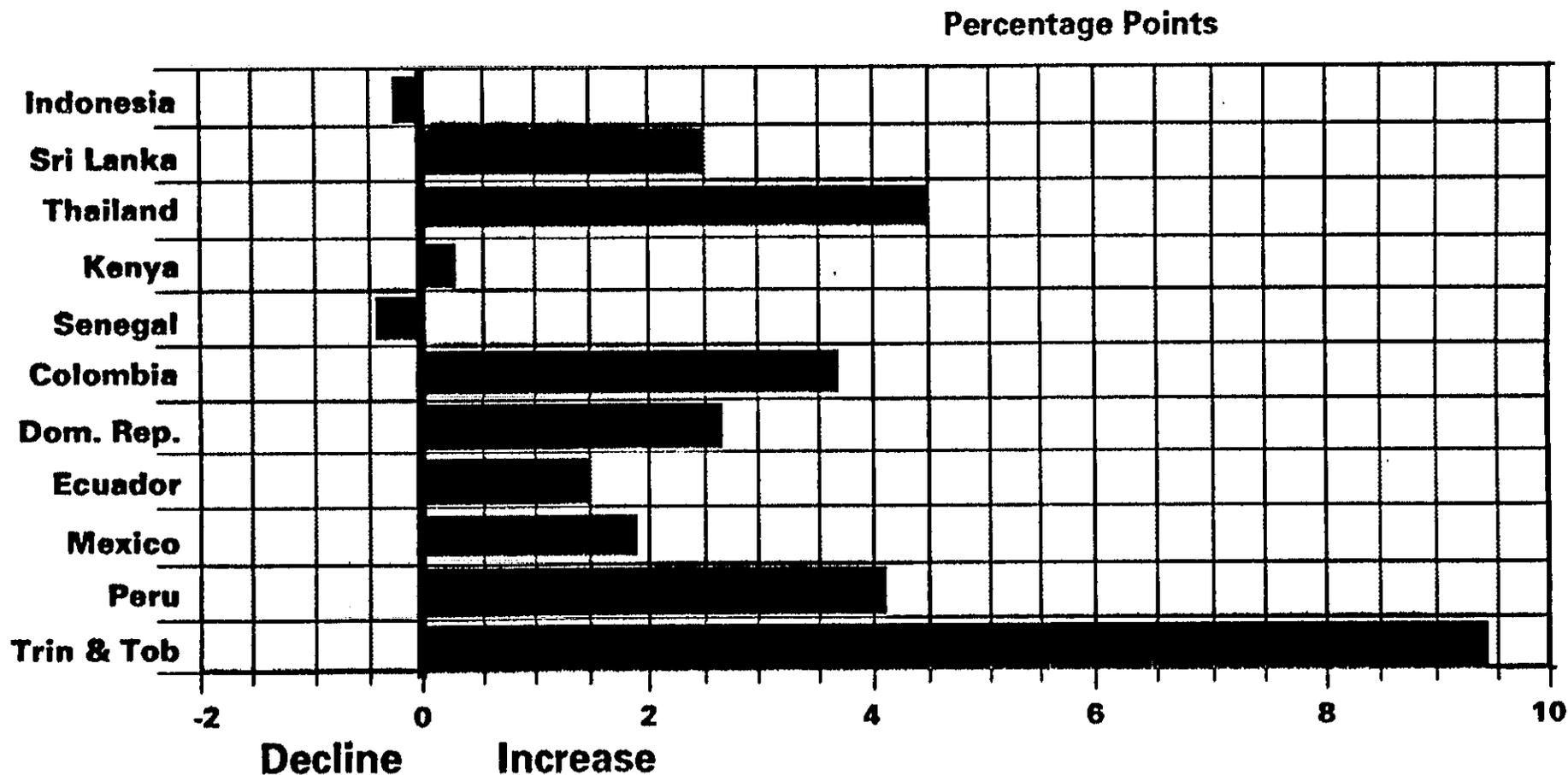
Source: Demographic and Health Surveys, 1986-89.

Change in Percentage Ever Breastfed Between WFS (1972-84) and DHS (1986-89)



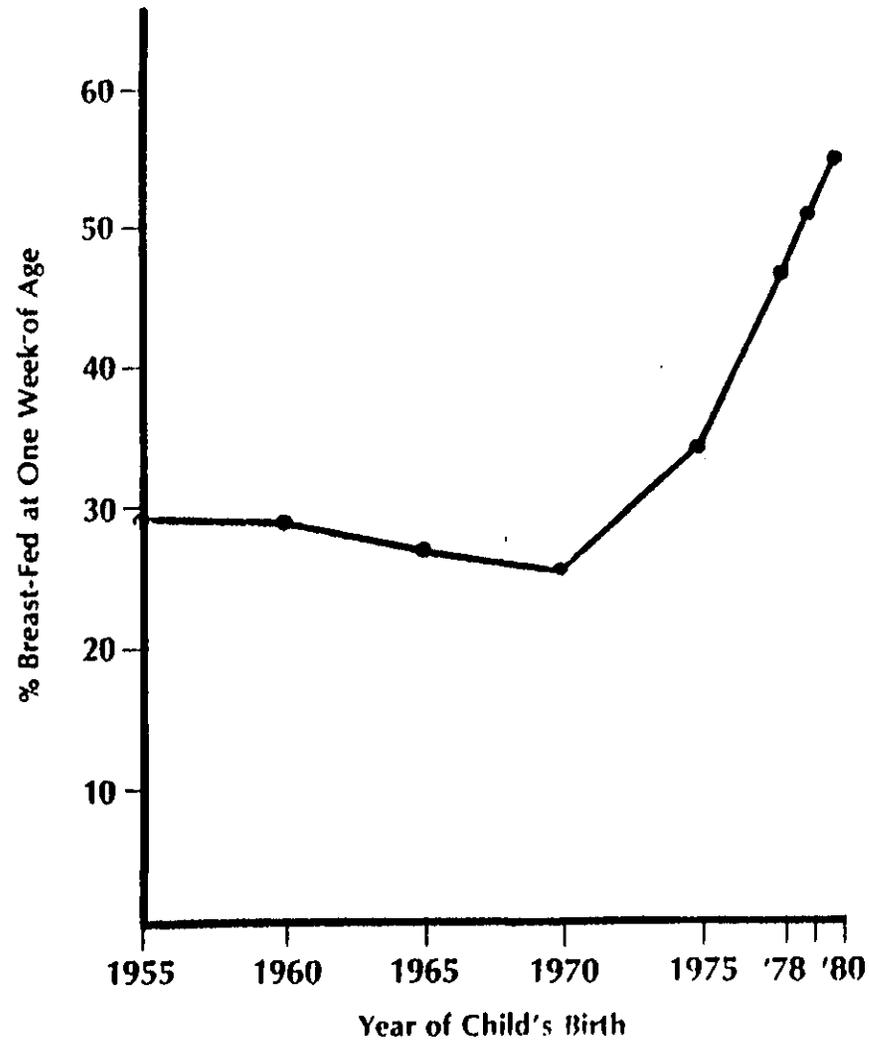
Source: Sharma et. al. 1990, World Fertility Surveys and Demographic Health Surveys

Change in Percentage Ever Breastfed Between WFS (1972 -84) and DHS (1986-89)



Source: Sharma et. al. 1990, World Fertility Surveys and Demographic Health Surveys

**Figure 3. Percentage of Infants Breast-Fed
at One Week of Age, United States, 1955-1980**

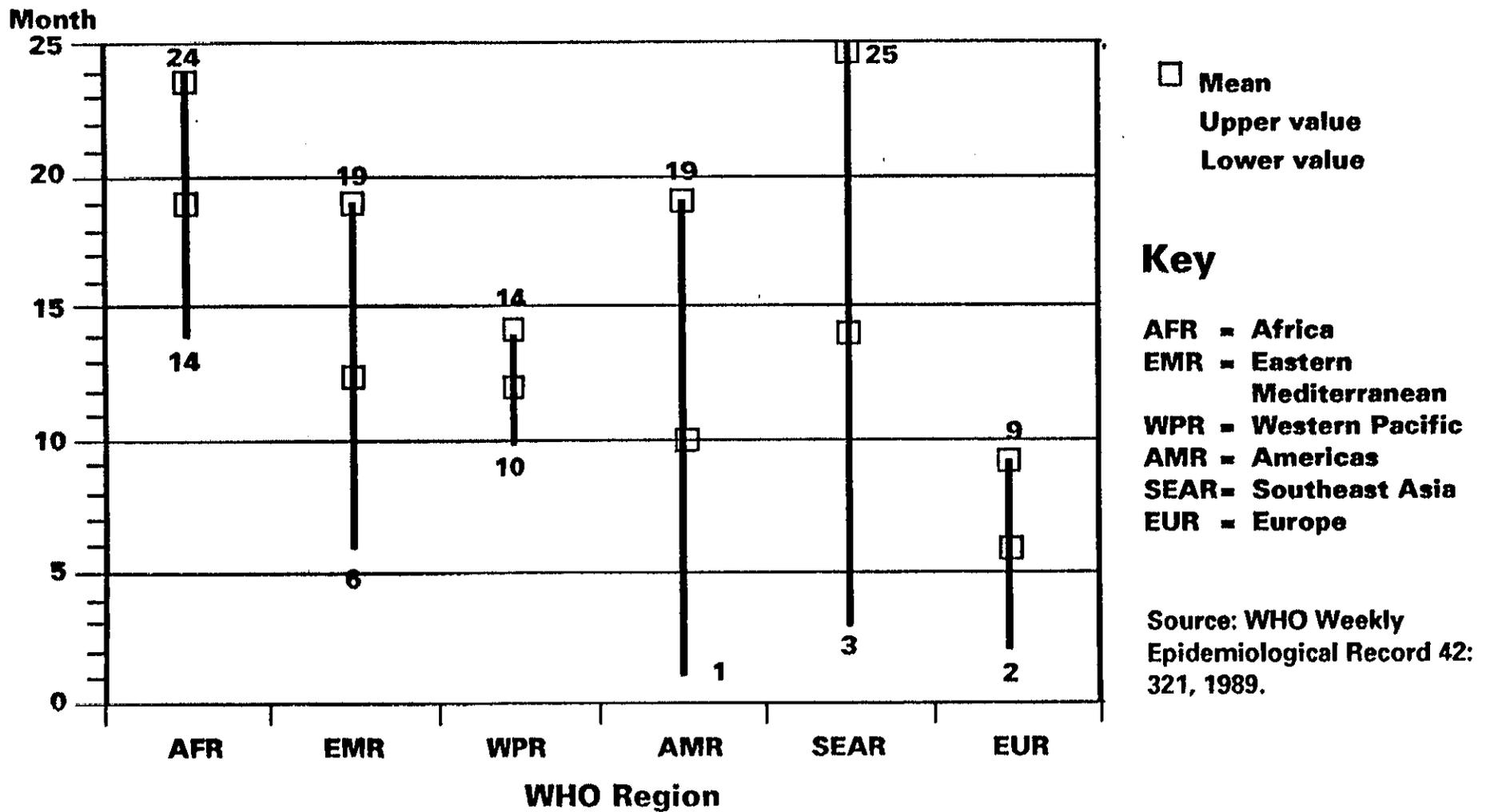


Source: Martinez et al. (360)

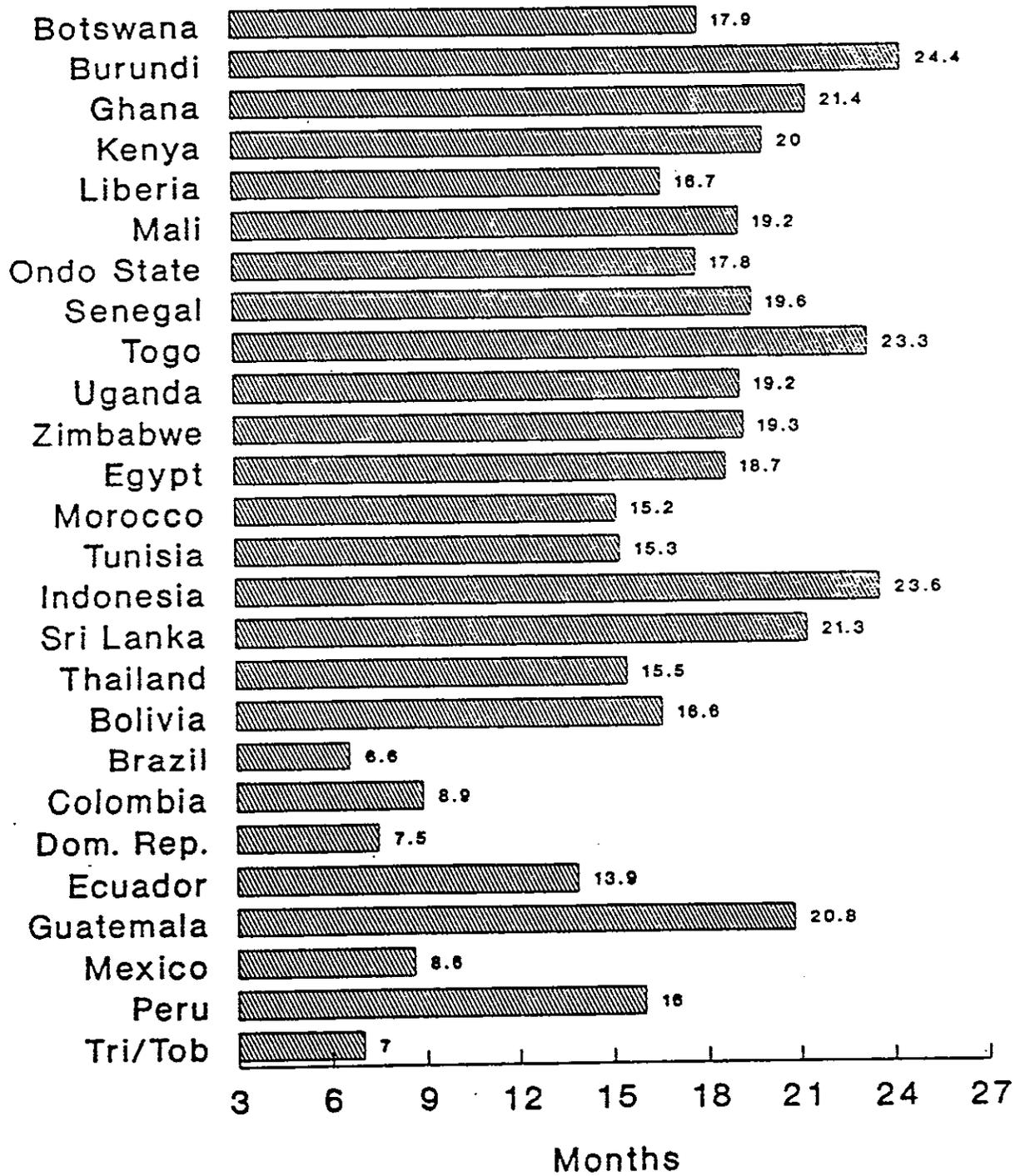
In the US, the percentage of infants being breast-fed at one week of age is rising sharply after declining for several decades. Increases in initial breast-feeding are also reported in Sweden and Australia.

Population Reports, Volume IX, Number 5, 1981.

Estimated Duration of Breastfeeding by WHO Region, 1989

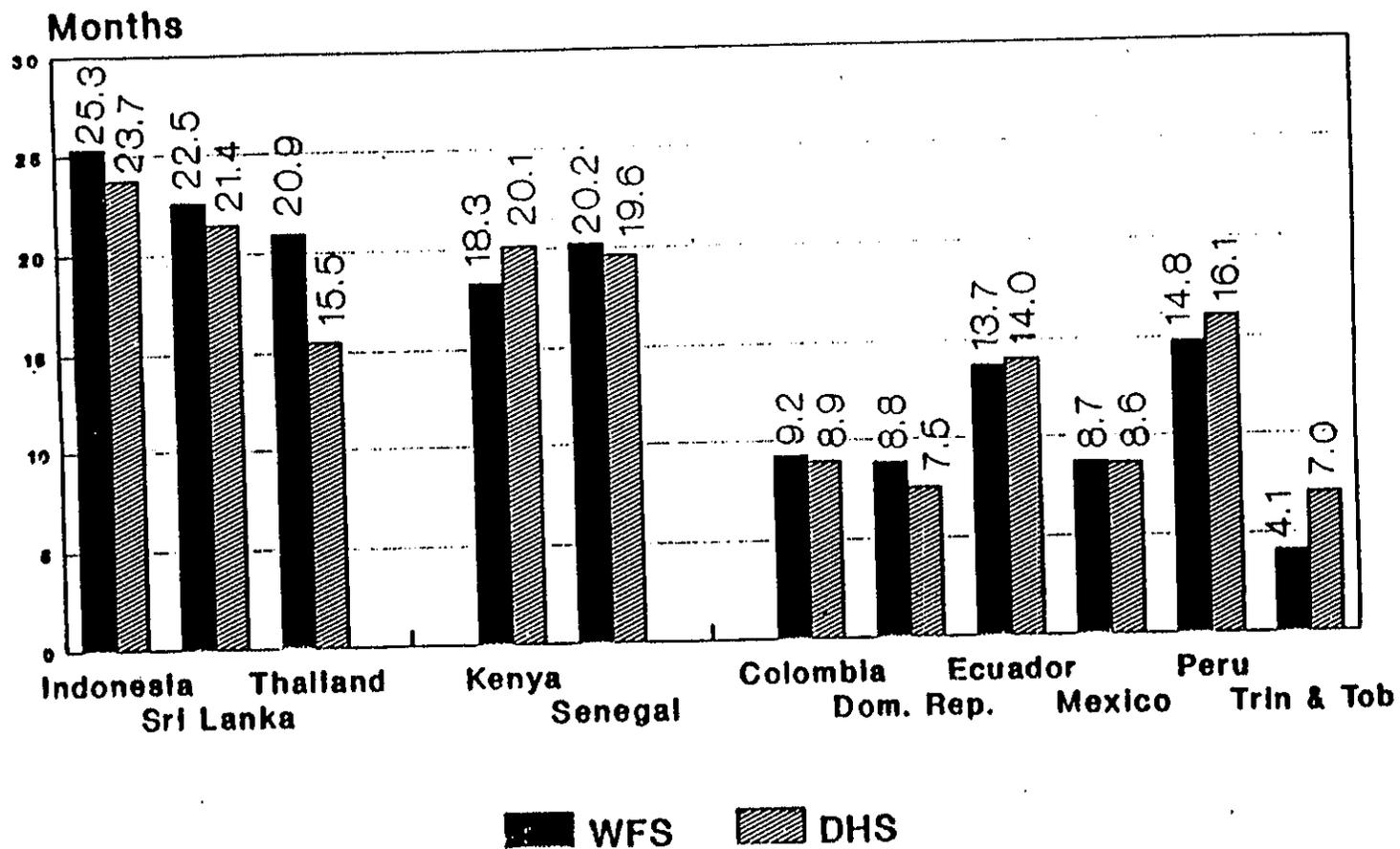


Median Duration of Breastfeeding



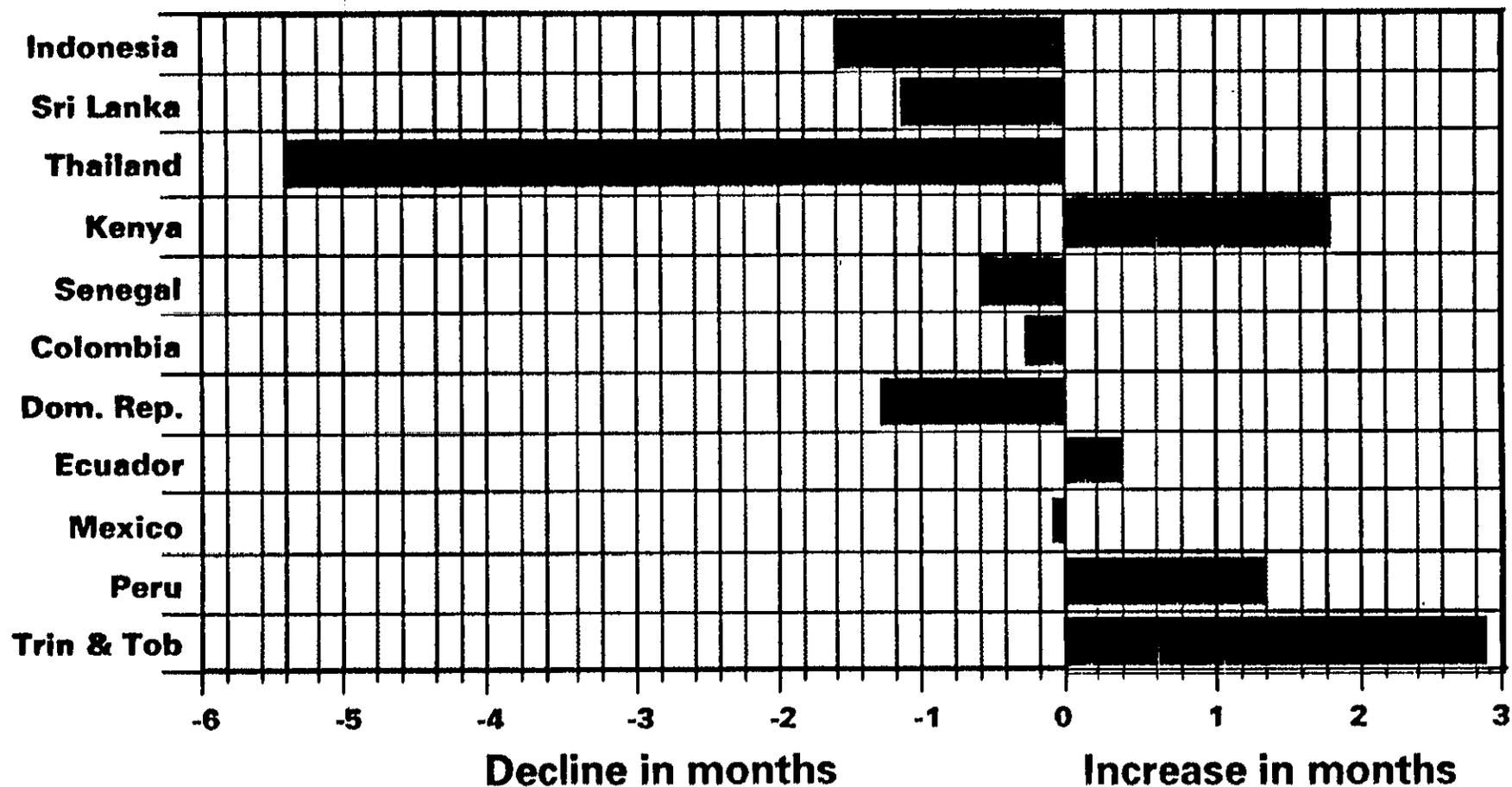
Source: Demographic and Health Surveys, 1986-89.

Change in Median Duration of Breastfeeding Between WFS (1972-84) and DHS (1986-89)



Source: Sharma et. al. 1990 & World Fertility Surveys and Demographic Health Surveys

Change in Median Duration of Breastfeeding Between WFS (1972-84) and DHS (1986-89)

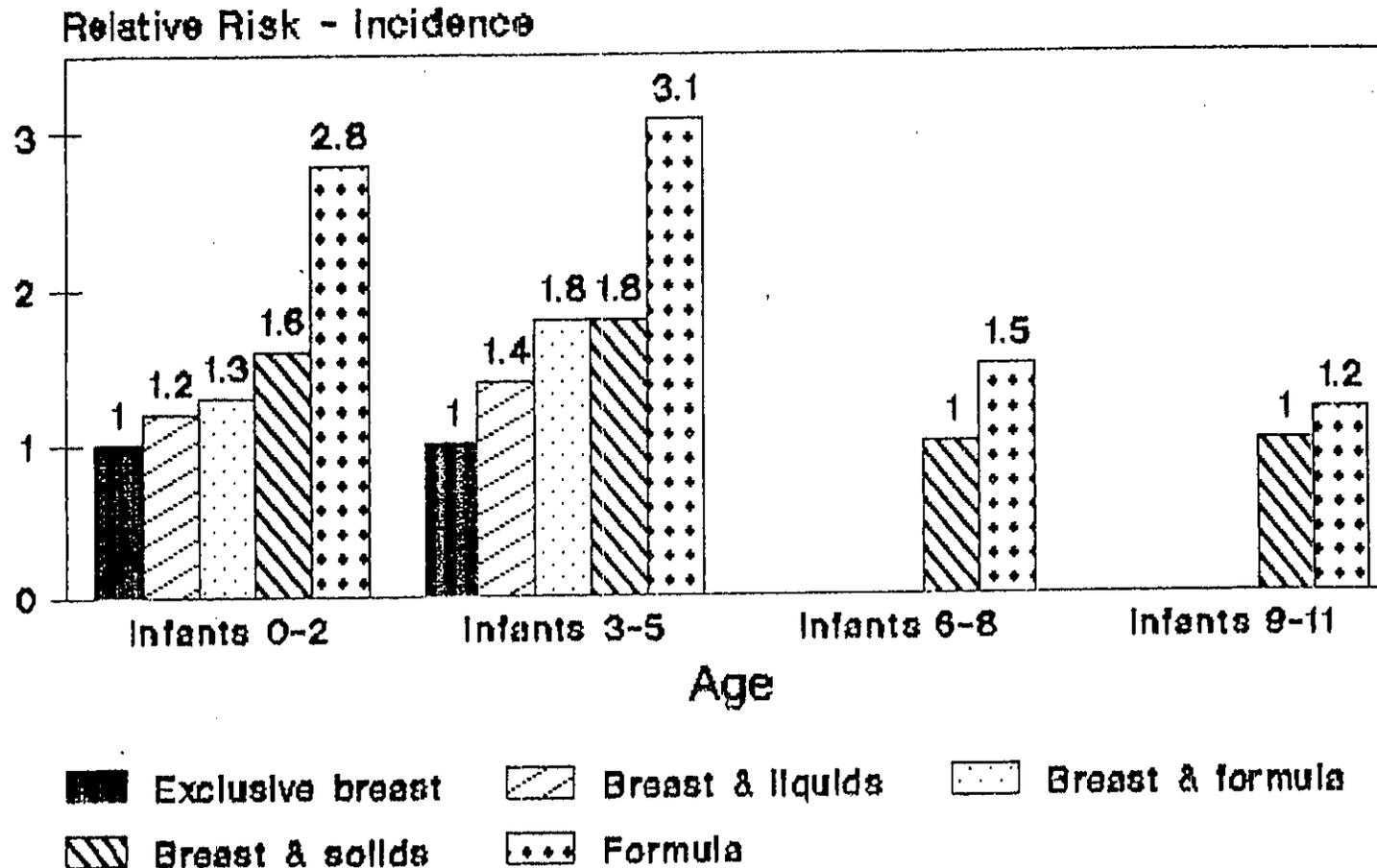


Source: Sharma et. al. 1990, World Fertility Surveys and Demographic Health Surveys

BENEFITS OF BREASTFEEDING

- o child survival
 - nutrition
 - infectious diseases
- o birth spacing and fertility
- o economic
 - individual
 - national - foreign currency
 - health services
- o convenience
- o psychological benefits
- o reduced risk of reproductive cancers

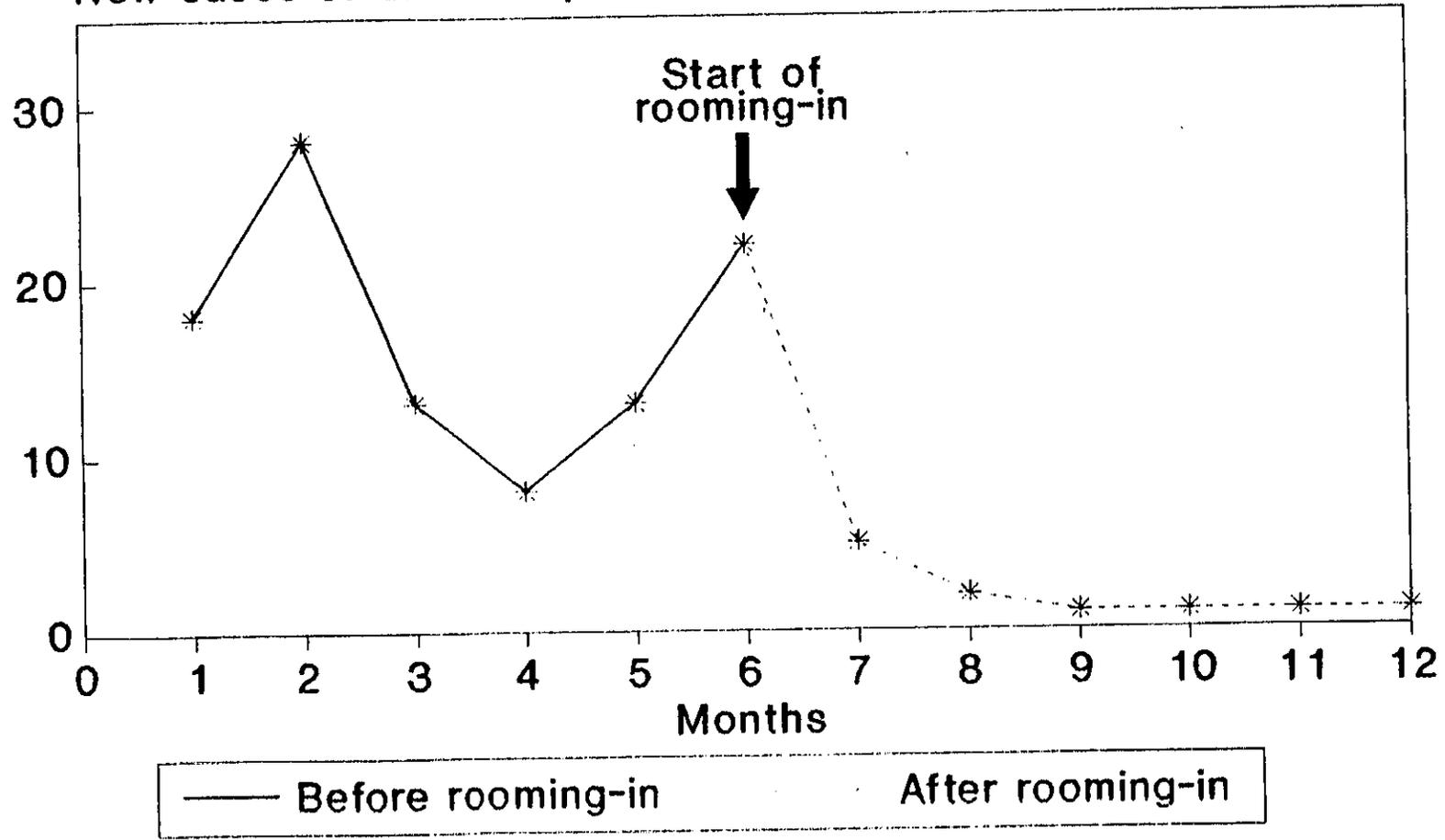
Relative Risk of Diarrhea by Feeding Practices and Age Group, Peru



Source: Brown, Black et al., 1989

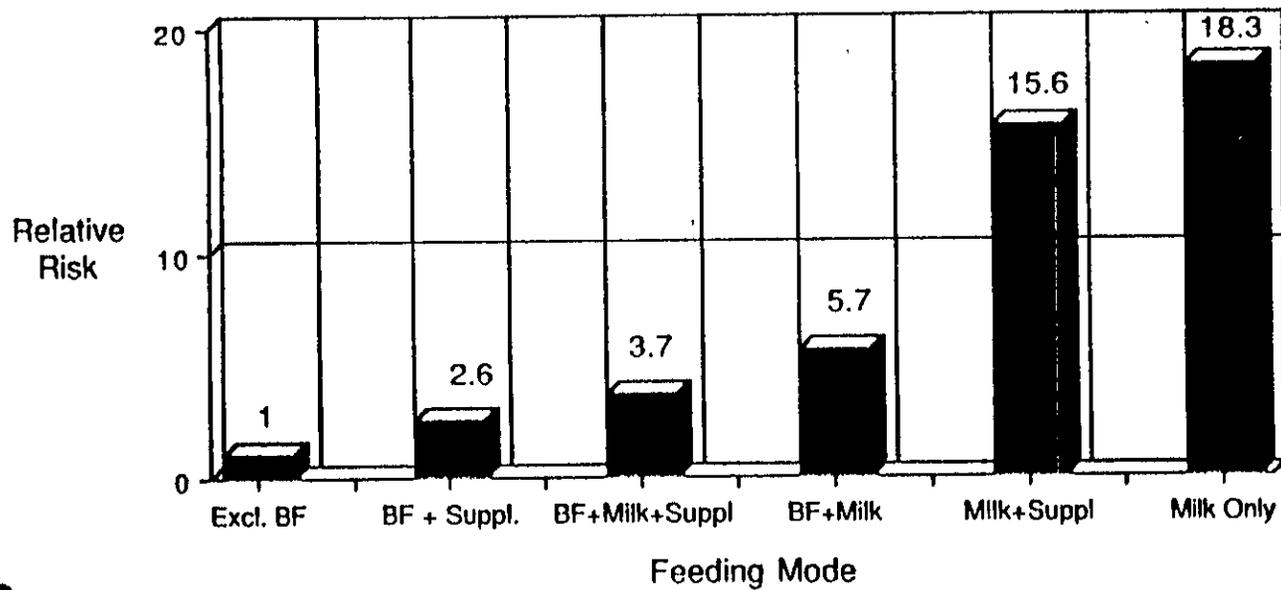
Incidence of Diarrhea before and after Rooming-in at an Indonesian Hospital following Wellstart Training

New cases of diarrhea per month



Source: Soetjningsih and Suraatmija, *Pediatrica Indonesia* 26: 229, 1986

Relative Risk for Mortality Due to Diarrhea by Feeding Mode in Porto Alegre and Pelotas, Brazil (Infants Ages 0-12 Months)

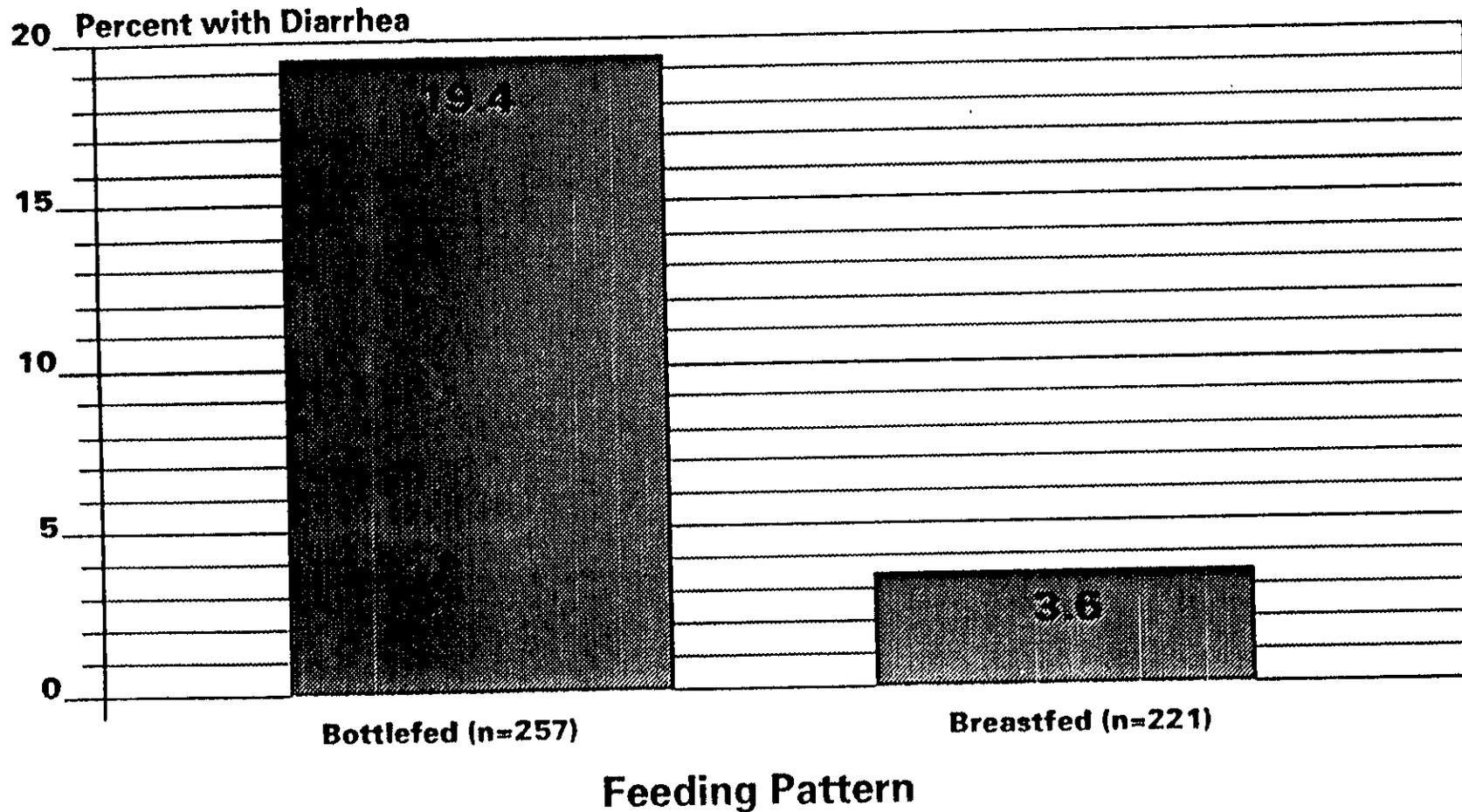


Source: Victora, C. et al. Lancet, 1:319. 1987

HOW BREASTFEEDING MAY COMBAT DIARRHEAL DISEASE

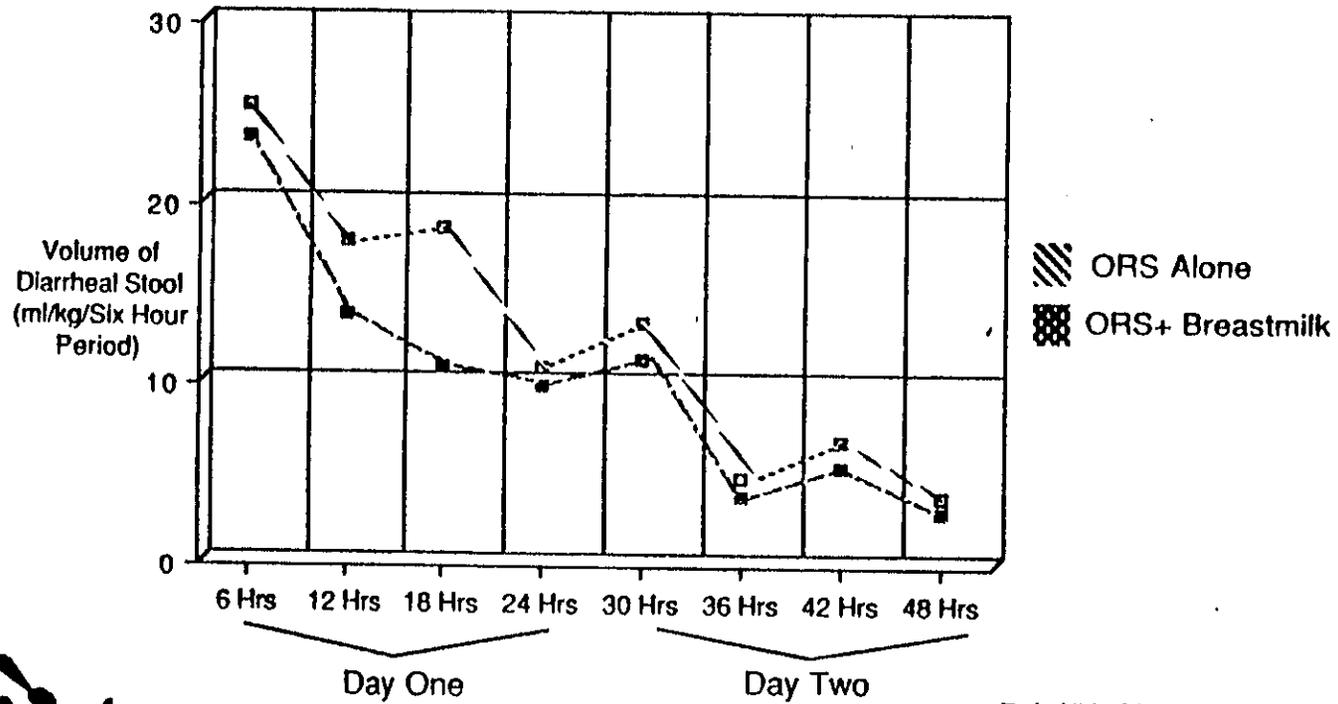
- o hygiene/contamination reduction
- o nutrition
- o passive immunity
- o enhanced active immunity
- o anti-infective agents
- o promotion of suitable gut flora
- o hydration

Prevalence of Diarrhea, Infants 0-13 weeks by Feeding Pattern, Scotland



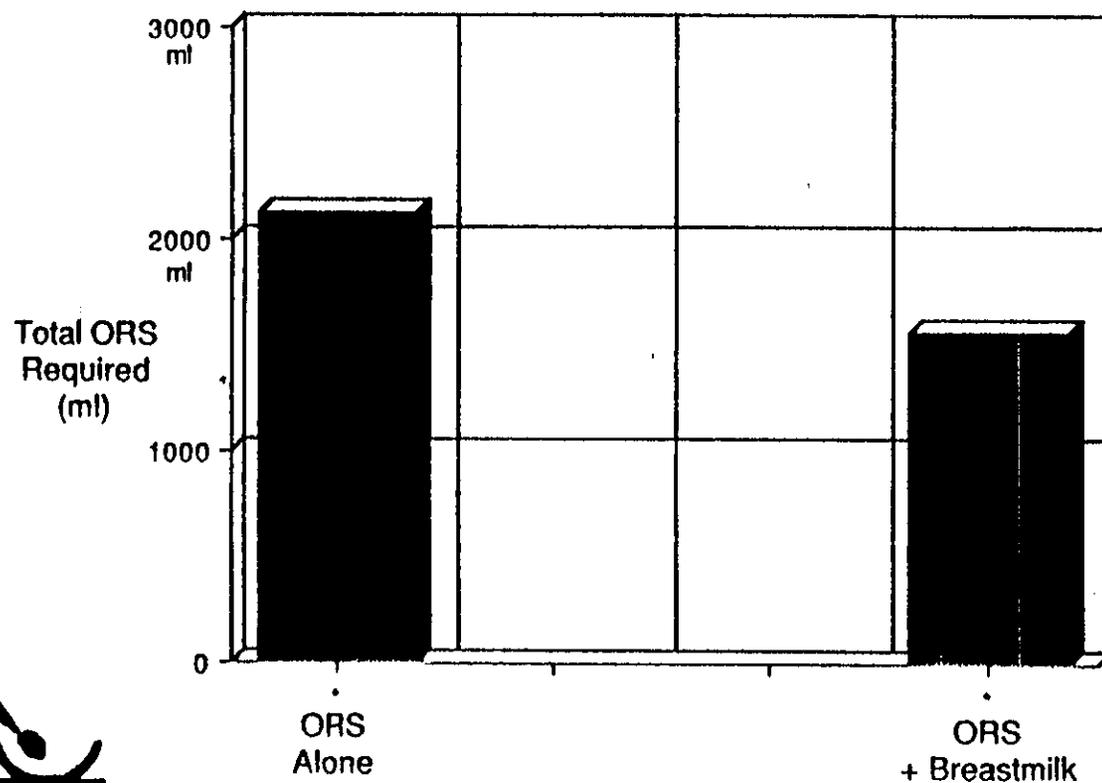
Source: Howie, Forsyth et al., 1990 British Medical Journal 300:11-16.

Stool Volume in Infants Receiving ORS Alone or With Breastmilk



Ref: Khin-Maung, U. et al.
290(23):587. 1985

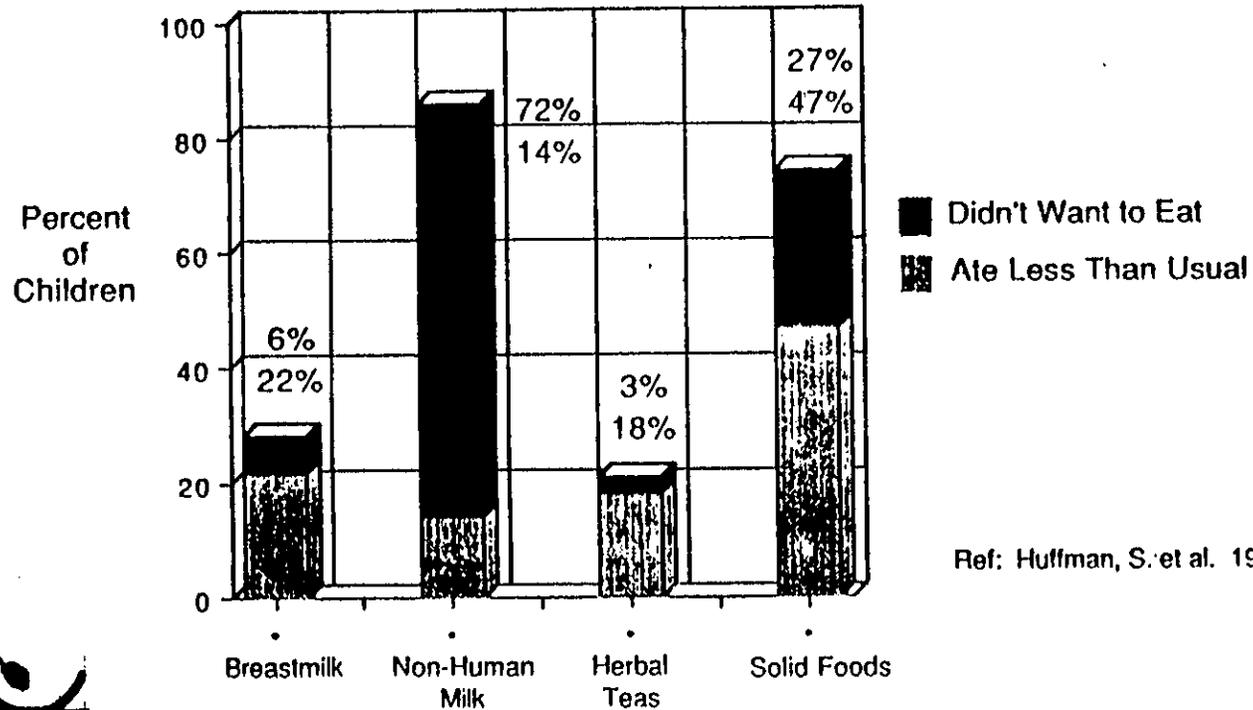
ORS Required By Infants Receiving ORS Alone or with Breastmilk



$p < .02$

Ref: Khin-Maung, U. et al. Br. Med J.
290(23):587. 1985

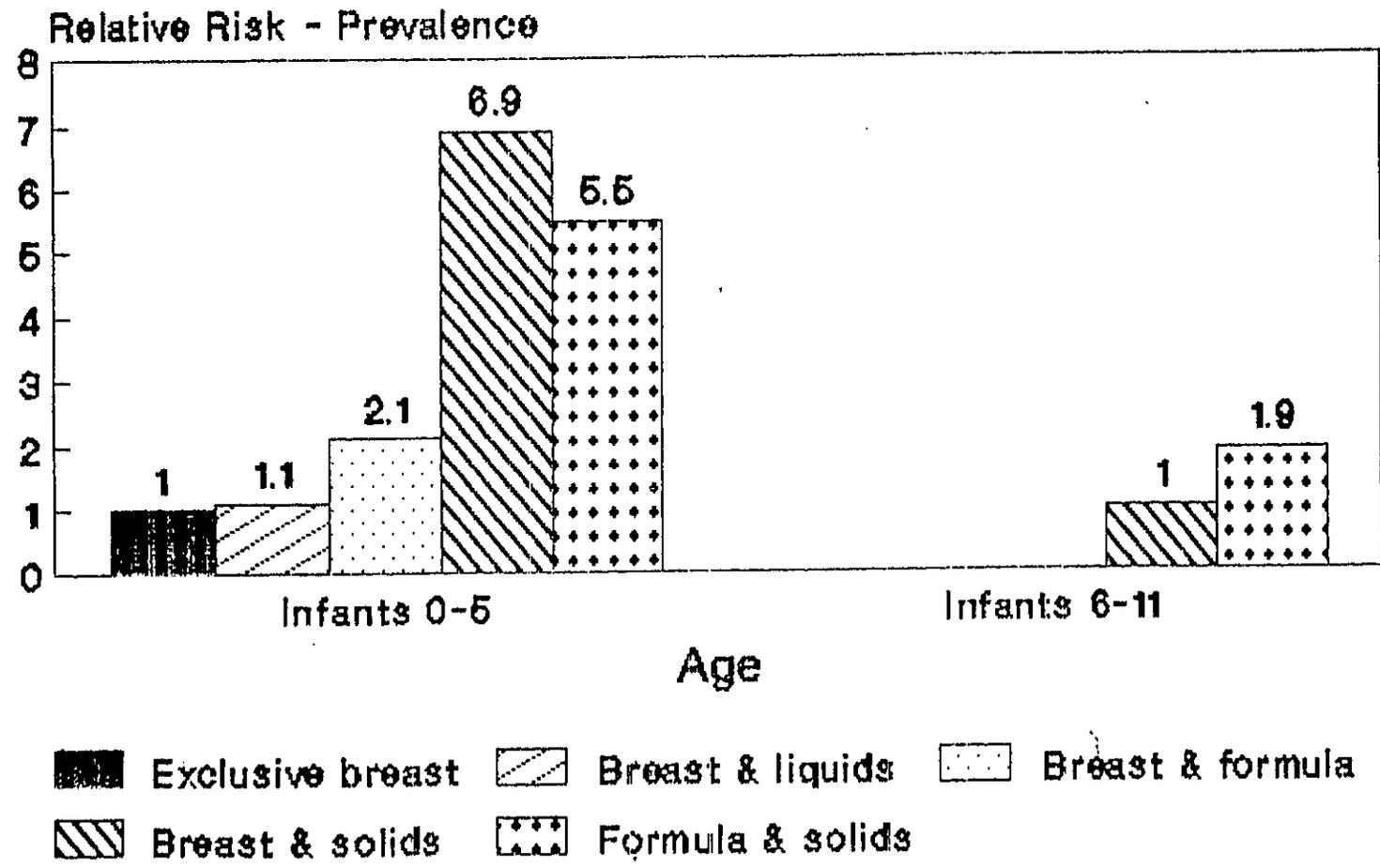
Percent of Young Children with Reduced Appetite for Foods During Diarrhea



Ref: Huffman, S. et al. 1988

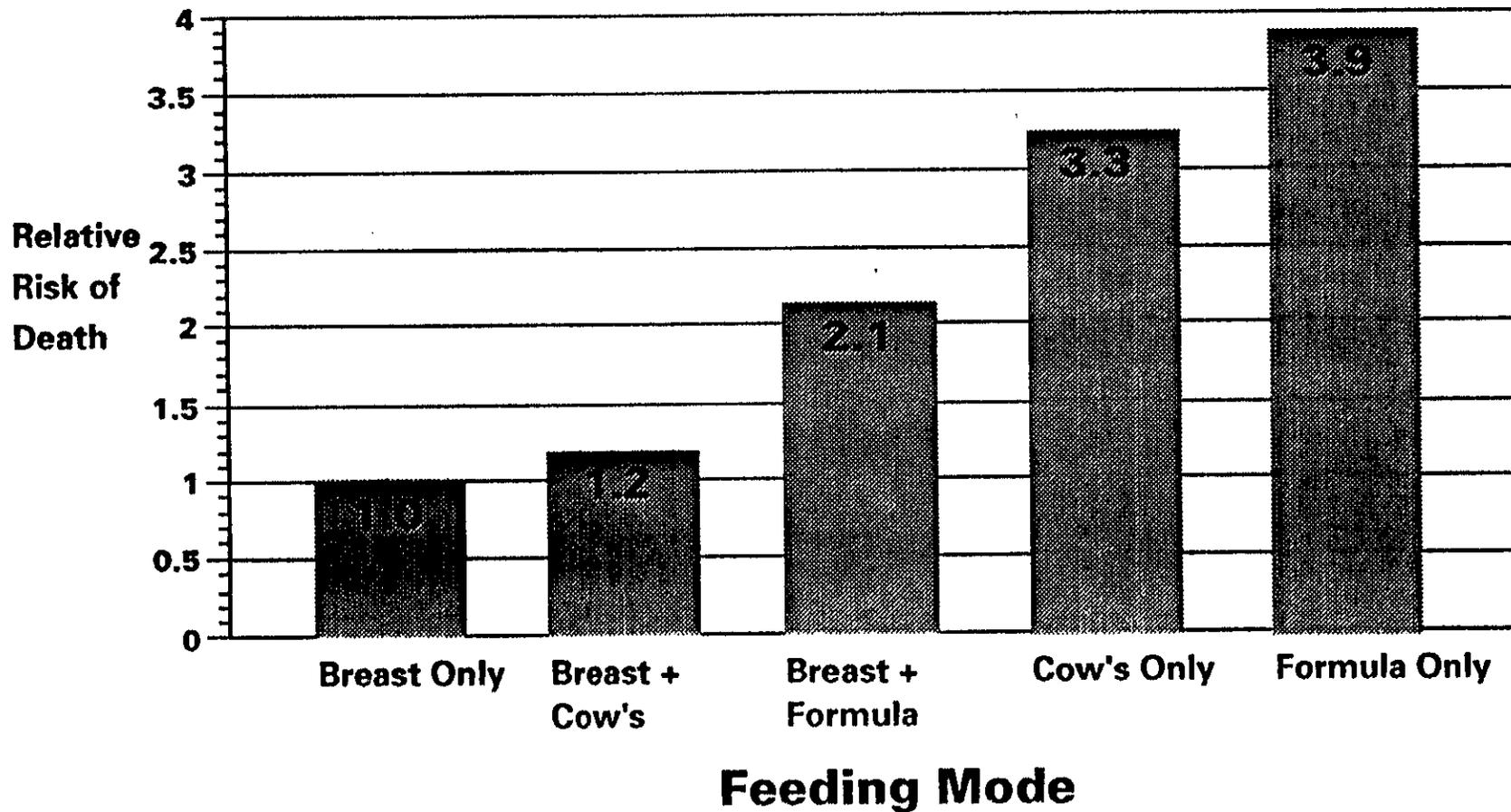


Relative Risk of Lower Respiratory Infection by Age & Feeding Pattern, Peru



Source: Brown, Black et al., 1989

Relative Risk of Death Due to Respiratory Infections by Feeding Mode (Infants 0-12 months, Brazil)

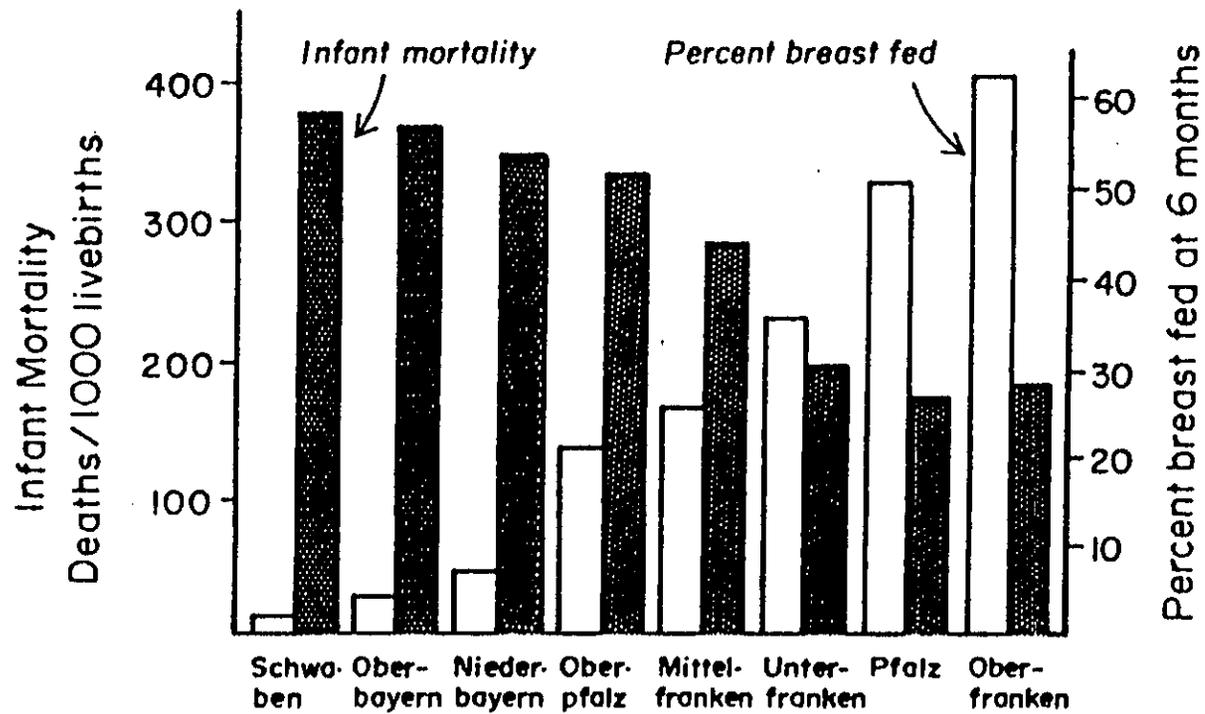


Source: Victora et al., Lancet: 319, 1987.

INFECTION-RELATED MORBIDITY IN BREAST-FED
AND FORMULA-FED INFANTS IN INDIA & CANADA

Disorder	Number of Episodes of Illness Over a 24-Month Period			
	<u>India</u>		<u>Canada</u>	
	Breast-fed (N=35)	Formula-fed (N=35)	Breast-fed (N=30)	Formula-fed (N=30)
Respiratory Infection	57	109	42	98
Otitis	21	52	9	86
Diarrhoea	70	211	5	16
Dehydration	3	14	0	3
Pneumonia	2	8	-	-

Source: R. K. Chandra, "Prospective Studies of the Effect of Breastfeeding on Incidence of Infection and Allergy." ACTA Paediatrica Scandinavica 68:69 1-4, 1979.

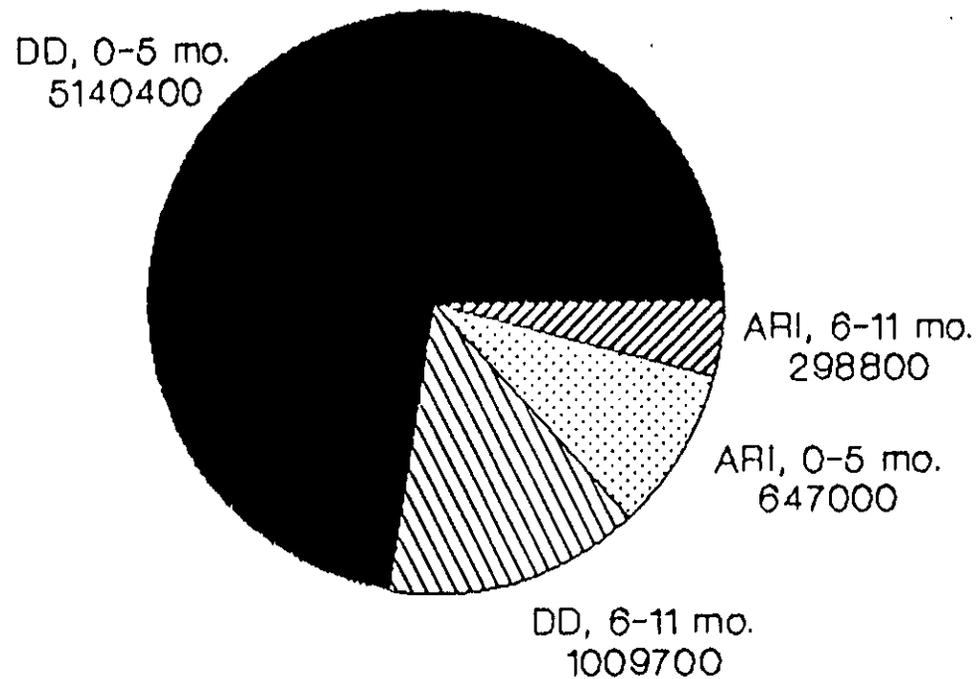


Association between breast-feeding practices and infant mortality rates in Bavaria, by district, late 19th century.

Source: Data from Knodel and van der Walle 1967. Wray, 1978.

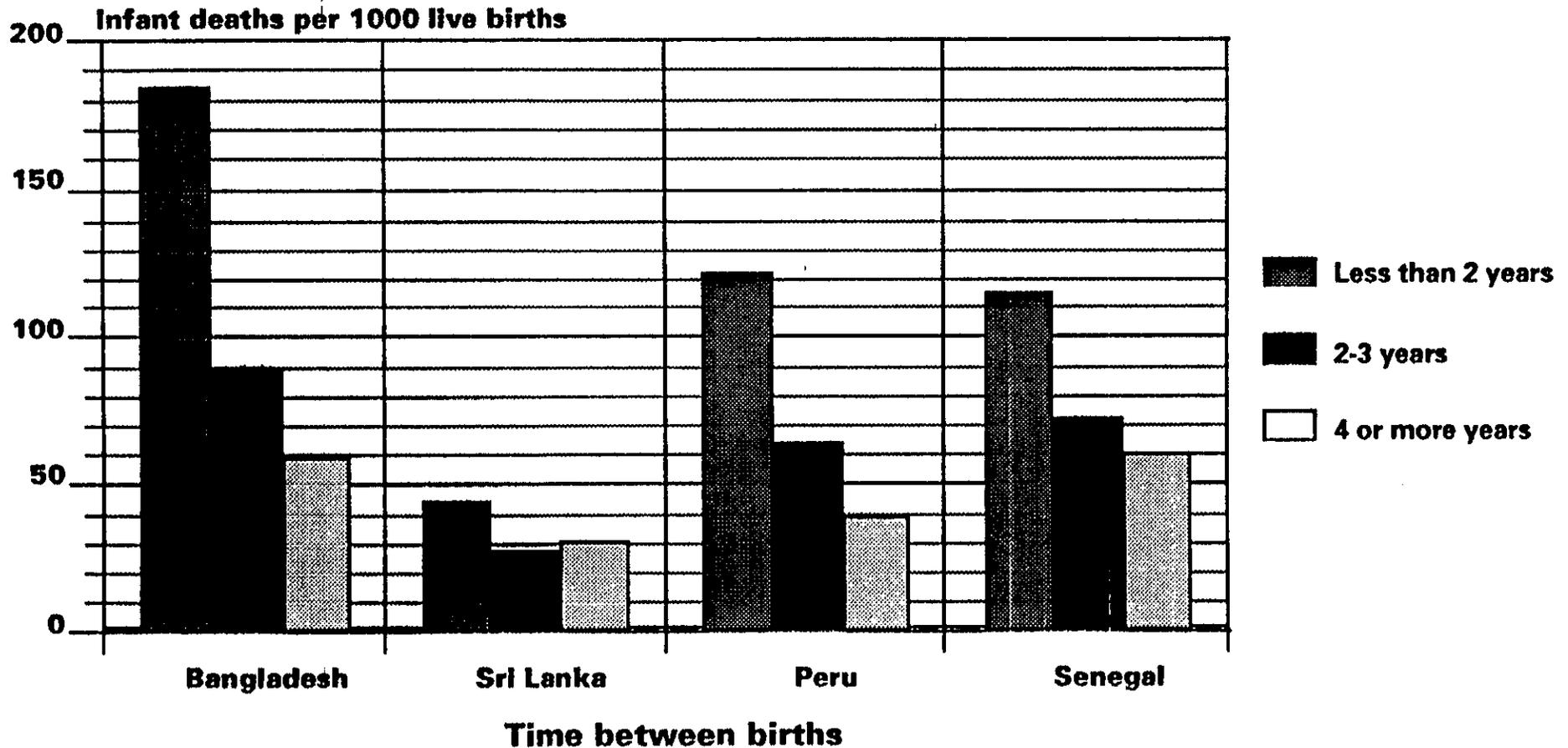
Infant Lives "Saved" by Breastfeeding by Cause of Death

7 MILLION INFANT DEATHS AVERTED



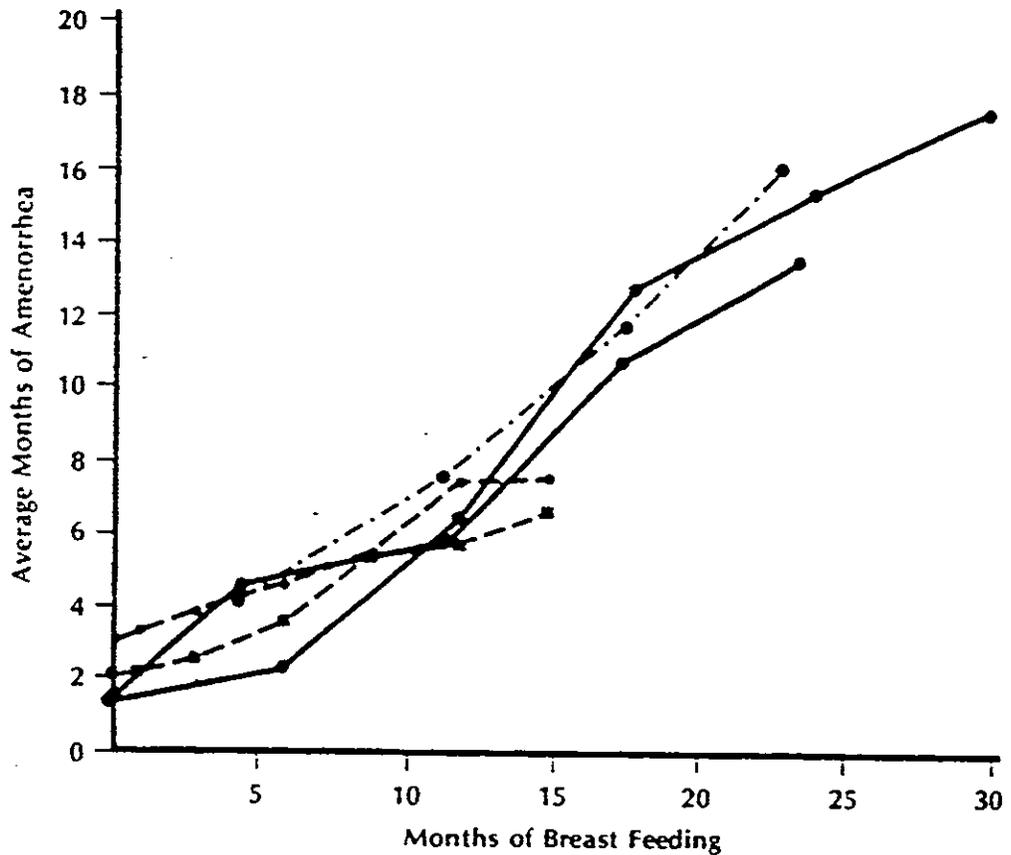
SOURCE: Levine, R.E. et al. Center to Prevent Childhood Malnutrition, 1990.

Relationship Between Birth Spacing and Infant Mortality



Sources: World Fertility Survey (Bangladesh), Demographic Health Surveys (all others).

Average Duration of Amenorrhea by Duration of Breast-Feeding in Selected Populations

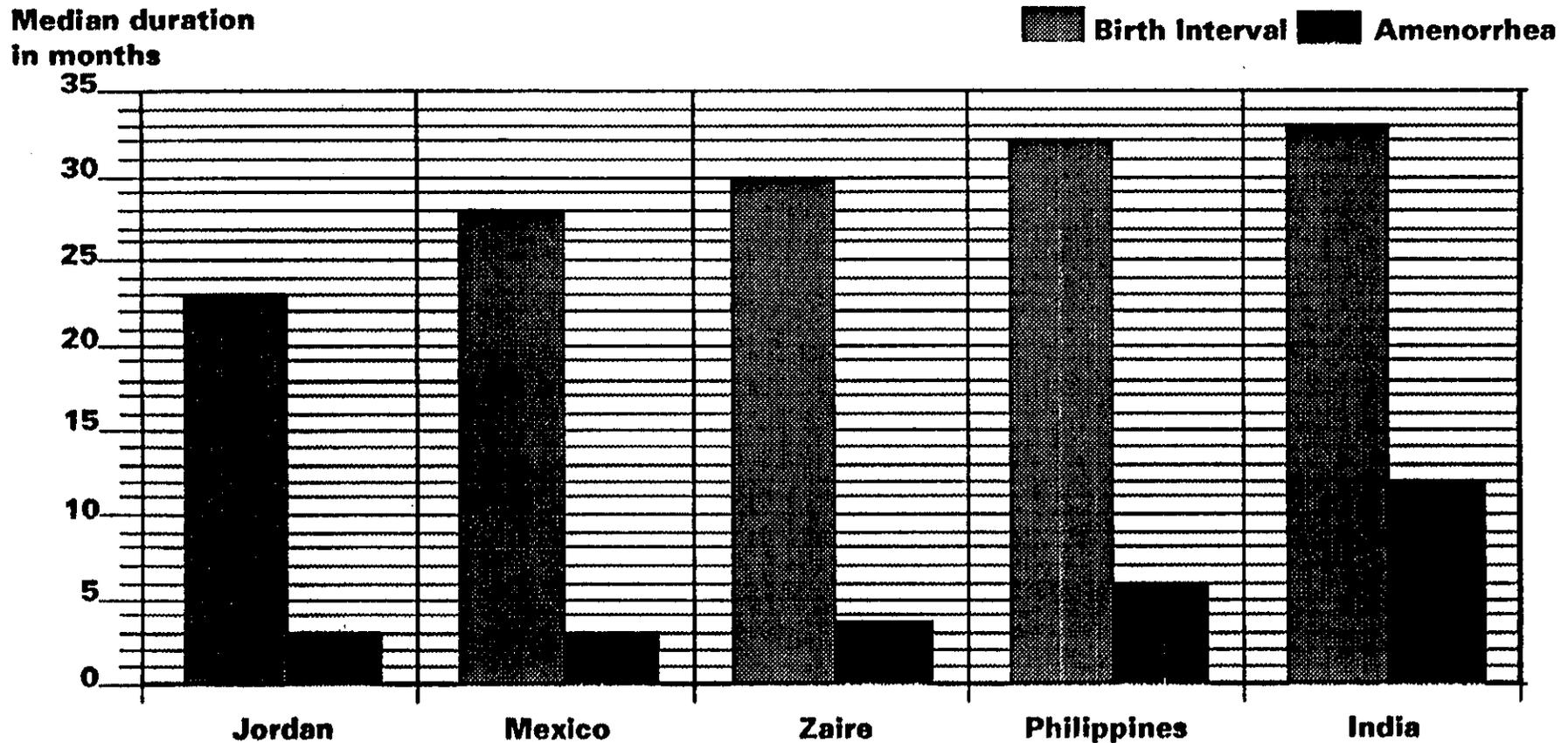


Sources: Bongaarts (55), Cantrelle & Ferry (83), Cantrelle et al. (84), Sivin (510)

Within a group of women, those who breast-feed for a shorter period experience shorter amenorrhea. In the groups shown, each represented by a line, women who do not breast-feed at all experience amenorrhea lasting one to three months, while for women who breast-feed about 18 months, it lasts 8 to 13 months.

POPULATION REPORTS Volume IX, Number 5, 1981.

Relationship Between Lactational Amenorrhea and Birth Interval



Source: Saadeh and Benbouzid, Bulletin WHO, July, 1990

CURRENT STATUS

Country	Average Duration of Breast-feeding (Months)	Approximate Average Duration of Lactational Amenorrhoea*	Married Women Currently Using Contraception	Projected Increase in Contraceptive Use Required if Duration of Amenorrhoea Dropped to 3 Months (%)
Bangladesh (1976)	30.5	21.7	9	52
Indonesia (1976)	25.4	18.1	26	57
Pakistan (1975)	21.4	14.7	5	39
Thailand (1975)	20.4	13.9	33	56
Kenya (1977-8)	16.8	10.8	7	32
Philippines (1978)	16.1	10.2	36	52
Peru (1977-8)	13.8	9.5	31	44
Mexico (1976)	11.6	6.9	30	41
Jamaica	7.5	4.5	40	44

*Among mothers with surviving children.

Adapted from: Lesthaeghe, R., Lactation and Lactation-related Variables, Contraception and Fertility: An Overview of Data Problems and World Trends, 1982.

PROBABILITIES OF PREGNANCY
DURING LACTATIONAL AMENORRHEA
IN THE FIRST 6 MONTHS POSTPARTUM

Country	<u>Any Breastfeeding</u>		<u>Full Breastfeeding</u>	
	No. Ovulated No. Observed	% Likely to Conceive	No. Ovulated No. Observed	% Likely to Conceive
Mexico	4/26	3.6%	1/28	0.9%
Egypt	6/26	5.8%	0/26	0.0%
Thailand	6/27	5.6%	3/26	2.9%

Source: Family Health International

" ... the maximum birth-spacing effect of breastfeeding is achieved when a mother 'fully' or nearly fully breastfeeds and remains amenorrheic (bleeding before the 56th postpartum day being ignored). When these two conditions are fulfilled, breastfeeding provides more than 98% protection from pregnancy in the first six months".

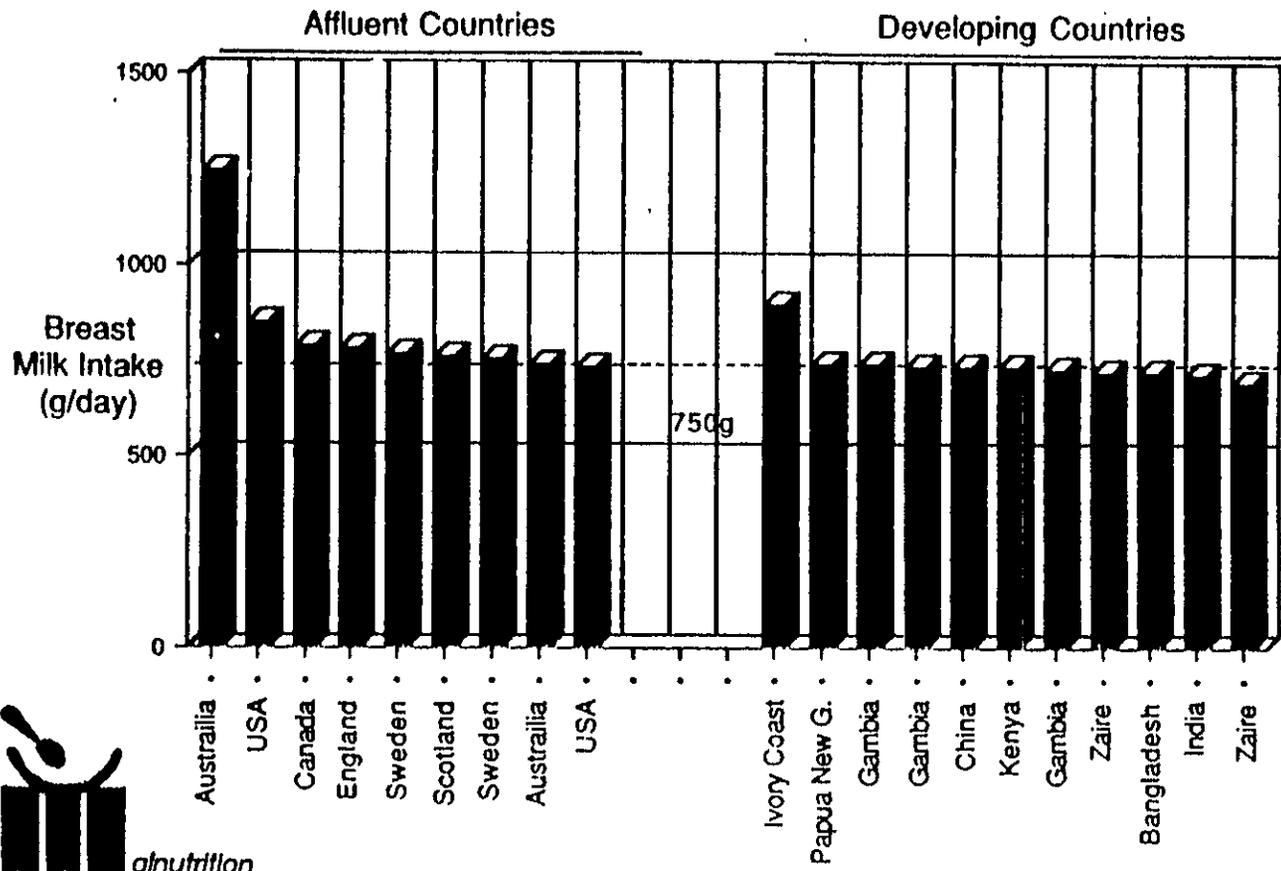
Bellagio Consensus Meeting

Source: Breastfeeding as a family planning method. Lancet ii: 1204-5, 1986

ADVANTAGES OF BREASTFEEDING PROMOTION TO FAMILY PLANNING

- o Potential profound demographic effect
- o Highly "do-able" programmatically
- o Reaches select group of women at high risk of pregnancy
- o Attracts women with broad spectrum of motivation
- o Highly acceptable politically
- o Supportive of child survival goals

Breastmilk Intake of Infants - Age 3 Months



Ref: Prentice et al, in Human Lactation 2, Hamosh (ed.). 1986

FUNDAMENTALS OF BREASTFEEDING

1. BREASTFEEDING MUST BE PROMOTED

- o breastfeeding has a key role in child survival
- o breastfeeding has a profound effect on fertility and family planning is needed to sustain breastfeeding
- o most women are motivated to breastfeed, but need skills and support to breastfeed optimally

2. THE PERI-DELIVERY PERIOD IS CRITICAL

- o current peri-delivery medical practice often has a strong inhibiting effect on breastfeeding
- o training of practitioners about breastfeeding is necessary
- o well-run hospital-based training programs can have a dramatic effect on breastfeeding practice

3. DURATION AND QUALITY OF BREASTFEEDING

- o certain practices enhance breastfeeding's impact on child survival and fertility: initiation at birth, frequent nursing, demand and night feeding
- o certain practices inhibit breastfeeding. Separation of mother and infant at birth, supplementation in the early months, pre-lacteal feeds and pacifiers

4. BREASTFEEDING PATTERNS HAVE VARIED

- o in recent years, the percent ever breastfed has increased or remained stable in many developing countries, whereas duration of breastfeeding has increased in some countries and decreased in others
- o regional/rural differences are significant - not all rural breastfeeding is "ideal"
- o breastfeeding decline need not be an inevitable result of modernisation and development

5. WORKING WOMEN CAN BREASTFEED

- o once lactation is established, a feeding pattern compatible with working is possible
- o women working outside the home have a right to breastfeed their children
- o societies should encourage working mothers to breastfeed