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BREASTFEEDING FOR
CHILD SURVIVAL
PAKISTAN

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(1.) INTRODUCTION

1.1. Purpose

1.1.1. Scope of work: original

As intended, the original scope of work was undertaken successfully: "To conduct six regional seminars (Karachi, Lahore, Peshawar, Multan, Muzaffarabad and Islamabad) and one national seminar (Islamabad) in Pakistan."

Historically, the seminars arose as a result of meetings and discussions held at the 9th Biennial International Paediatric Conference, Peshawar, March, 1988, which included the "Peshawar Declaration" (Abbas, 1988), outlining twenty main points "to guide the conduct and practice of any medical practitioner who wishes to promote and protect breastfeeding."

Subsequently, arrangements and many readjustments because of extraordinary political changes in Pakistan were most ably made by a National Steering Committee.¹

1.1.2. Expanded Scope

Activities included increasing the awareness of new knowledge on the evidence of the value of human milk, on the programs developed in other parts of the world and on the

1. Dr. Mushtag Khan (chairman), Dr. Khwaja Abbas, Dr. Anwar Saeed, Dr. Pirrko Heimonen, Ms. Dorothy Bazos, Ms. Lucia Ferraz-Tabor and Ms. Luana Martin (coordinator).

importance of understanding the scientific aspects of maternal and neonatal psychophysiology and mammary anatomy in achieving successful breastfeeding and overcoming problems ("lactation management").

The seminars (including both main sessions and working groups) and a lecture to the Pakistan Medical Association reached and hopefully further sensitized over six hundred health professionals involved. However, it was noteworthy that obstetricians and private practitioners were least represented. Further details concerning the professionals attending, their disciplines and presentations are given in a separate document, "Annotated Seminar Itinerary."

In addition, there was considerable coverage by mass media which was especially encouraging in view of the unique political events occurring at the same time, notably the elections. Selected representative reports in the English language press are shown in Appendix: A. An interview on breastfeeding was also given for "National Health," the main English language magazine in this field, with a country-wide circulation.

Two radio question and answer sessions (20 minutes each) were broadcast and taped by UNICEF for future distribution as teaching aids. A videotape was made by UNICEF, which was in essence a compressed version of the three consultants' seminar presentations. Also, a news conference was held for reporters

from all the English language newspapers. This was based on a prepared news release, but probed many issues especially the economic significance of breastfeeding to national development.

The ultimate objective of the Travelling Seminars was to work with Pakistani colleagues and international agencies (USAID, UNICEF) in formulating the outlines of a national interdisciplinary program to help promote breastfeeding and prevent its decline, and to persuade government authorities of the need for this. Results in this regard are outlined in later sections on "Recommendations" and "Conclusions."

1.2 Methodology

The following four methods were employed:

1.2.1. Analysis of available literature. This was undertaken prior to departure (including a PRITECH consultants' report on a previous visit to Pakistan (March, 1988) (Jelliffe & Jelliffe, 1988a), as well as documents available in the USA, sent by USAID, Pakistan and obtained en route (see Bibliography).

1.2.2. Seminar sequence: information obtained. The sequence of seminars in different cultural, linguistic, economic and ecologic regions of Pakistan were most helpful in obtaining information concerning the present situation (although most often with a hospital-health center viewpoint), and with potential indications for change. This was made possible by the papers presented by

Pakistani colleagues, based on recently collected information, (see separate document: "Annotated Itinerary"), by working groups leading to recommendations from each required seminar and from the final national workshop.

1.2.3. Interviews: national and international personnel. In the course of travel in the country and at the seminars, numerous discussions were held with large numbers of national and international personnel at many levels and of different disciplines. (Details are given in a separate document, "Annotated Seminar Itinerary".)

1.2.4. Observations. Visits to clinical settings provided a better understanding of local problems and increased the effectiveness of consultant contributions to the seminar discussions. A total of seven visits were made, providing observations in five pediatric in-patient wards, five out-patients, three neonatal special care units, four delivery units and three post-partum units. These ranged from old, over-crowded, poorly supplied and equipped to one elaborate, spacious, "state-of-the-art" children's hospital.. Details are given later (Appendix B), including a visit to a "sweeper's colony" in a poor area of Islamabad.

In general, these brief opportunities to observe a selection of clinical services provided further evidence of the need for education and training of health care providers regarding sound

management of lactation and breastfeeding. While most health care personnel seemed aware of the importance of breast milk and breastfeeding, few had sufficient depth of knowledge to do much about it.

2. BACKGROUND: PAKISTAN DATA

2.1. General

The data quoted in a previous report by PRITECH consultants in March, 1988 are still relevant (Jelliffe & Jelliffe, 1988a) (Table:1), notable features include very low incomes, high levels of illiteracy (particularly among women), and extremely high birth rates with population increases ranging between 3.5 to 4.2% per annum, indicating an addition to the population of between 3.5 to 4 million newborn each year. Major health problems in mothers and young children, singly or in combination, are similar to those in other less technically developed countries. As elsewhere, the "Big Three" killing conditions in young children are diarrheal disease, protein-energy malnutrition, and severe respiratory infection (often generically labeled "pneumonia.") Of these, the major final cause of death in infancy and early childhood is diarrheal disease due to intestinal infection. In addition, infections preventable by immunization also loom large, including measles, whooping cough, tuberculosis and poliomyelitis.

Among neonates, a high incidence of tetanus of the newborn is responsible for often unsuspected and/or under-reported mortality in this age group. Low birth weight babies are prevalent (27% 1982-83) and are responsible not only for immediate neonatal mortality, but also lay the ground for future malnutrition, as a result of inadequate stores of nutrients at birth. In addition, other neonatal infections, including diarrhea and septicemia, are undoubtedly common and neither recognized nor diagnosed sufficiently.

Among women, much ill health also occurs as a result of "maternal depletion," due to repeated reproductive (pregnancy-lactation) cycles, culturally and economically restricted diets and overwork. The predominant preventable malady is nutritional anemia, mainly occurring in women in lower socioeconomic groups, mostly related to cumulative iron deficiency. Studies by Mushtaq Khan and Fehmida Jalil (1980) re-emphasized this by showing the very high figure of 83% of pregnant and lactating women to have hemoglobins below 8-10 g/dl. The recent National Nutrition Survey (1985-6) has shown double the rate of anemia (defined as <11 g/dl) in older pregnant women than in younger gravida. Many factors are responsible. Shorter periods of lactation amenorrhea seem to be one, due to the increased iron loss in menstruating women.

Table 1: Some Relevant Recent Statistics for Pakistan:
Approximations Adapted for Various Sources*

Population:	100 million
Average annual growth urban rate (1980-85)	4.8%
Villages:	40,000
Rural Population:	80%
Children under 5 years:	(17.6 million) 17%
Infant mortality:	100+/1,000 live births
Prenatal mortality:	60/1,000 live births
"Preschool age" mortality:	558/1,000 live births
Low birth weight babies	(<2.5 kg.) 25-27%
Anemia in children:	52%
Maternal mortality:	600/100,000 live births
Female literacy (1985):	19%
Weight gain pregnancy:	4.5-9 kg.
Anemia in pregnancy:	+56%
New pregnancies and neonates:	3.5-4 million/year
Mean income (<Rs. 600/month)	47%

*Information from UNICEF, World Bank, World Development report and National Nutrition Commission (Mustaq Khan and Fehmida Jalil, 1980s)

In some more mountainous areas of the country, iodine deficiency is widespread, especially among women, becoming worse during pregnancy. More importantly than previously appreciated, there is evidence of widespread fetal damage from iodine deprivation in utero.

Another feature of the general situation was an extreme shortage of nurses and the inadequate coverage of the country with peripheral health services. Yet, when present, there were frequent reports of under-utilization. Reasons for the latter seemed unclear and probably varied. A widespread belief in the traditional, ancient Yunani ("Greek") system of medicine may have been responsible in part, with the sick seeking the attention of hakims and other types of traditional healers.

2.2. Health, demographic and socioeconomic data: additional information. Although, as noted, the main general statistics are much as shown in Table: 1, certain changes and new information should be added, as they need consideration in policy formulation.

Some relevant quoted approximate figures include the following: average life expectancy 52 years (women less), total population between 104-110 million, rural:urban migration 400,000 per year, overall population increase 4%, "potable" water 40%, urban sewage disposal 10%, hospital births 10%, per capita income

US\$380 year, population with very low income (47%) (now defined as <R.800 per month), inflation 20% per annum, falling value of Pakistani rupee 43.7% (compared with US\$ from 1982-88). Drug addiction, mainly inhaled heroin, is increasing, with an estimated 600,000 addicts in Karachi, or 1 in 7 of the population (Balchi, 1988). With the welcome gradual return home of Afghan refugees, it is feared that availability of heroin may increase, as rural Afghani villagers are said to grow "wheat for food, poppies for money" (Sayeed, 1988).

2.3. Macro-economics and food policy: some relevant points.

The country is reported to have a very large trade deficit. A principal import of edible food is vegetable oil, although the government has several projects to increase production of cottonseed oil and sesame oil. This is important nutritionally as a major source of calories in the usual Pakistani diet. In addition, recent FAO figures show that the three imported items which have risen most in the last 5 years are edible oil, fertiliser and "Baby Milks". The relevance of the last of these is emphasized later, as obviously related in relation to the availability and use of infant formula in the country.

3. CURRENT FEEDING PRACTICES FOR MOTHERS AND YOUNG CHILDREN

Results from different regions and sources varied, as would be expected. In particular, most research papers presented at the

seminars were based on hospital or health center data, with a small number concerned with community investigations. By contrast, the preliminary analyses from the 1985-6 National Nutrition Survey were made from carefully selected,

samples considered to be representative. This large-scale investigation also showed numerous limitations. These included limited training and supervision of the interviewers, and inadequate detailed questioning concerning the infant diet, including the type and pattern of breastfeeding recorded.

The results from studies by pediatricians---"almost entirely mixed milk feeding", "exclusive breastfeeding rarely seen"---were confirmed by all papers presented in the seminars.

By contrast, preliminary analysis from the 1985-6 National Nutrition Survey, which attempted to obtain community samples from all provinces, showed the following (Zerfas, 1988): bottle or bottle plus breast: 0-3 months--urban 21.3%, rural 8.1%; 4-6 months--urban 27.8%, rural 15.6%. Of breastfed infants up to 6 months, only 40% were judged to be receiving "adequate" amounts of breast milk (with five feeds per day arbitrarily considered as "adequate").

However, both sets of information had the same ultimate messages, although with varying degrees of emphasis, as would be expected from the different methods used and populations sampled.

The general pattern of breastfeeding was as described by Martin (1988) (Appendix:C):

-- Neonatal feeding: often compromised by frequent failure to give colostrum, the common use of "prelacteal feeds" and the very widespread practice of giving ghutti (traditional "first taste").

--Breastfeeding: stated to be common (over 90% initiation) and "prolonged" (1-2 years), but actually rarely exclusive, usually "partial" or "mixed," [complemented with very dilute bottle feeds of animal milk (cow, buffalo, goat) or formula] from the early days or weeks of life, most often because the mother's view is that she has "insufficient milk"; in almost all cases, feeds would be made with highly contaminated water and given with a dirty feeding bottle.

--Delayed introduction of semi-solids: as in India, foods other than liquids -- milk (human, animal, formula), water and various herbal decoctions -- are delayed into the second year of life.

4. INFLUENCES ON FEEDING PRACTICES

Many factors influence decisions made by a family concerning feeding infants. A limited number of practical significance are considered below.

4.1 Traditional cultural practices: As all over the world, traditional cultural practices influence the pattern of feeding

in a community, especially such vulnerable groups as the newborn baby and infant, and pregnant or lactating mothers. These practices have been categorized from the point-of-view of health and nutrition as "harmful," "beneficial," "neutral" and "uncertain" (Jelliffe, 1956).

All cultures, including so-called Western countries, have food habits in all four categories. In the Islamic Republic of Pakistan, the influence of positive emphasis on breastfeeding is endorsed by at least five surah in the Koran and Hadith. Of these, the most quoted is from Al Bagara urging breastfeeding for two years.

However, despite religious injunctions, a large number of harmful, restrictive customs have developed concerning breastfeeding. These vary from place to place, but include the following: testing a mother's milk by dropping on an ant and seeing if it survives; considering breast milk to be toxic if the mother becomes pregnant, or if a previous child has died; stopping breastfeeding in diarrhea.

In practice, advice often comes from the family -- the mother-in-law, the father or the grandmother, or from the traditional birth attendant. Curiously and ironically, in some places, the incorrect belief that formula is superior to breast milk may mean that a more prized male baby will receive

expensive, but bacterially dangerous, "top milk" or formula.

As in some other countries, a varying percentage of mothers do not give their newborn colostrum for 2-4 days, as it is believed to be "stale." During this period, other feeds will be given. All will contain contaminated water, with a high risk of neonatal diarrhea and malnutrition.

A similar, apparently overlapping custom is that of giving ghutti (here interpreted as meaning "first taste"). Various items may be used, most frequently honey or herbal mixtures. A small amount is put on the baby's tongue by finger or licked from a spoon, by a respected relative for several days after birth. In part, ghutti is intended as a laxative to help clear out the fetal meconium, and a leading proprietary brand has 0.3 gm. senna and 3.4 gm. village-prepared sugar (gur) (Fig: 1). In addition, the practice also has considerable social significance, "bonding" the adult giver and the newborn recipient.

For the pregnant and puerperal mother, various foods may be restricted according to the garam-tanda ("hot-cold") classification (Jelliffe, 1956). However, at least in some areas, the beneficial practices of advising meat (if affordable) during pregnancy and calorie-rich halwah (sesame seeds, sugar, etc.) occur.

Delay in introducing other foods than liquids to the young child is very common, sometimes until the second year of life.

FIG:1

HAMDARD GHUTTI

POPULAR GHUTTI PREPARATION TO CLEAR
THE BOWELS OF THE NEW-BORN AND
TO RELIEVE CONSTIPATION
OF CHILDREN

Formula

Each dose of 4.5 ml (one teaspoonful) contains:
Concentrated aqueous extract from:-

Rosa damascena	(Gulab ke phool)	0.1 gm.
Cassia angustifolia	(Senna)	0.333 gm.
Careya arborea	(Bao khumba)	0.066 gm.
Rheum emodi	(Revand chini)	0.1 gm.
Glycyrrhiza glabra	(Mulethi)	0.132 gm.
Cassia fistula	(Amaltas)	0.20 gm.
Foeniculum vulgare	(Saunf)	0.132 gm.
Terminalia chebula	(Bari har)	0.20 gm.
Embelia ribes	(Bao barang)	0.066 gm.
Country sugar	(Shakar desi)	3.37 gm.

Ghutti has been used for centuries in this country for the newborn and infants to evacuate the bowels and prevent constipation. It is a common household remedy for this purpose. Hamdard Ghutti is an improved form of the renowned, age-old prescription-Ghutti. Great care has been taken to give due consideration to the tender and sensitive system of infants. Hamdard Ghutti contains ingredients such as CASSIA ANGUSTIFOLIA (Senna), CASSIA FISTULA (Amaltas) and RHEUM EMODI (Revand chini) which act as mild laxatives, stimulate the intestinal peristalsis, without liability to cause griping and are stomachic and useful in atonic dyspepsia; Rosa damascena (Gulab Ke Phool) which acts as astringent, carminative and refrigerant; GLYCYRRHIZA GLABRA (Mulethi) as tonic, cooling and demulcent; CAREYA ARBOREA (Bao khumba) as astringent; EMBELIA RIBES (Bao barang) is carminative, anthelmintic, diuretic, laxative and stimulant. FOENICULUM VULGARE (Saunf) is stimulant, carminative, diuretic and laxative. TERMINALIA CHEBULA (Bari har) is a safe, effective and gentle laxative, astringent and alterative.

Hamdard Ghutti is non-irritant, non-habit-forming and agreeable.

INDICATIONS

For newborn, infants and children to evacuate the bowels and keep the digestion in order; in constipation, dyspepsia, flatulence, colic and abdominal pain.

DIRECTIONS FOR USE

DOSE: 4.5 ml. (one teaspoonful) to be licked as such or diluted with mother's milk or water. The dose may be increased or decreased as required or prescribed.



Hamdard (Waqf) Pakistan

This is related to the mother's recognition of association with diarrhea and because of complex considerations concerning the appropriateness or danger of "hot" or "cold" or badi ("windy") foods for infants in different situations.

4.2. "Pseudo-modern": urban to rural. Especially among the urban educated elite, various out-dated, "pseudo-modern" concepts and beliefs of the forties and fifties have been imported from so-called Western countries. These include fear of losing her "figure," embarrassment with breastfeeding in public, the use of the pacifier, unfounded anxiety concerning "insufficient milk" and belief that bottle feeding is the smart, modern way to rear babies. The beliefs and practices of many of these "trend-setters" appear to be "frozen in the forties." This is curious as a considerable number of such women will have gone to the USA or Europe to study or with their husbands and might, therefore, have been expected to have been exposed to the breastfeeding resurgence in these "more technically developed countries" that has occurred in the past twenty-five years.

Another group that is currently decreasing in numbers are workers returning from employment in the oil-producing Gulf States, with what has been termed the "Dubai Syndrome." In this, disposable diapers and feeding bottles are status symbols.

Contrasting perceptions for and against breastfeeding in upper and lower socioeconomic mothers are given in Table: 2, as

	<u>UPPER SES</u>	<u>LOWER SES</u>
<u>Advantages</u>	Better health (baby) Closer relationship Scientifically better More convenient Religious sanction(26%) Positive emotion of affect (mother:baby) "Mother becomes small" (slimming effect) Prevention of breast cancer	Low cost Convenient Prevents diarrhea Religious sanctions (42%) (up to 2 years) Natural contraceptive effect
<u>Disadvantages</u>	Interferes with social life Difficulty with introducing other foods Infant becomes too dependent Looks "awkward" (embarrassment) "Disfiguring" (loss of figure)	Nil (60%) Mothers working out of home

Table:2 Perceptions by upper and lower socio-economic mothers concerning the advantages and disadvantages of breastfeeding in Lahore City (Javed, 1988)

reported by one seminar participant in Lahore City (Javed, 1988).

Nevertheless, despite mothers' statements that they appreciate the superiority of breastfeeding, the majority in both upper and lower socioeconomic groups introduce bottle feeds early on--most usually because of the misbelief that they have "insufficient milk."

Also, via the mass media and the influence of commercial advertising, some of these actually old-fashioned "pseudo-modern" ideas are spreading from urban to rural areas, particularly the supposed superiority of formula compared with breast milk.

4.3 Women in the workforce. It is uncertain how many women are in the workforce--that is, working away from home in paid employment, ranging from maids and factory workers to professional positions or secretarial posts or other office work. The usually quoted estimate is 5%.

As anywhere in the world, breastfeeding poses special difficulties for women who wish to (or have to) continue with salaried employment. However, it must be stressed that in Pakistan inadequate, partial breastfeeding occurs overwhelmingly in women who are not in the workforce.

Legislation currently exists, at least on paper, for pregnant women working in Government service to have 3 months paid leave, usually split into two 6-week periods, one before and one after delivery. This is stated to be "flexible," and for 3

children only.

4.4. Commercial pressures: influences and reactions. The influences of formula companies are ubiquitous and easily visible in stores crowded with at least 40 brands from 19 companies (Martin, 1987). Direct advertising of formula and bottle feeding apparatus to the public exists on the radio, TV, and in women's "Substitutes" has been approved by the Pakistan Pediatric Association, modified by them, with subsequent suggestions by UNICEF for "model legislation" suited to Pakistan. However, it has not as yet been accepted, as noted in an editorial in the Pakistan Times (Nov. 30th) (Fig: 3)

As emphasized later, the increase in bottle feeding with formula is also clearly indicated by increasing imports, with considerable significance not only for infant health, but also for expenditure of foreign currency.

Other unnecessary, very expensive formulas that are widely promoted are lactose-free -- for infants with chronic diarrhea. This is despite the fact that lactose deficiency is uncommon in infants who are treated with oral rehydration and continued feeding, including breastfeeding. Also, when lactase deficiency does occur a 50% cow's milk: 50% yogurt mixture is cheap and is equally effective (Khan et al., 1988).

Recently, a means of evading the Code has also been devised by advertising "Follow-on" formulas and expensive cereal weaning

THE PAKISTAN TIMES

ISLAMABAD, NOVEMBER 30, 1988

THOUGHT FOR TODAY

One of the mischievous people is he who has two faces, meeting each party with a different face.

— The Holy Prophet (p.b.u.h).

Human milk substitutes

By pointing out the high milk substitutes, it is infant casualty from the difficult to understand the wide use of breast milk helplessness of health authorities and their lack of substitutes (BMS), Dr. Derrick B. Jelliffe, a coordinated effort to promote breast-feeding among mothers. One basic area and Paediatrics, has emphasised an important health hazard where a reorientation programme is needed is the attitude of paediatricians on which attention is unfortunately given only at academic exercises. The damaging facts that 65 per cent of mothers are turning away from breast feeding to BMS and that 200,000 babies die because of this shift in attitude, are all too familiar to the health authorities. Several surveys carried out by UNICEF on this subject have indicated the close links between the use of BMS and the high rate of child disease and child malnutrition. Current research on the other hand gives evidence that mother's milk has higher nutritional qualities than it was originally given credit for in immunising an infant against disease in the early months has been established by medical research more than a decade earlier. Yet in the same period the sale and use of BMS has experienced a boom.

In the presence of factual data on the dangers of breast promoting its use

foods allegedly for older infants and pre-school age children. In fact, these suggest their use for babies under six months by, for example, showing an idealized young baby on the can.

The extent of unethical advertising and promotion by the infant food industry, IBFAN (International Baby Food Action Network) has analysed recently, and shows widespread infringements of the Code by all formula companies (IBFAN, 1988). Some of these involve promotional tactics directed at health professionals, including pediatricians, obstetricians and nurses, as well as hospitals, especially maternity units.

4.5. Health services: knowledge, attitudes and practices.

Knowledge. Information obtained² clearly indicated that there was often a less than adequate knowledge about the literally huge amount of new scientific data concerning human milk and its specific properties, about the successful programs that have been developed in various parts of the world to promote breastfeeding and particularly modern knowledge of the scientific rationale for the management of breastfeeding as a learned process, based on newer knowledge of the psychophysiology of maternal reflexes, mammary anatomy and the process of nursing ("lactokinetics").

The wide range of properties of breastfeeding seemed underappreciated. For example, the biological endocrinological

2. Some major issues are indicated by the most commonly asked questions at the seminars (Appendix D).

child spacing effect of breastfeeding and the need to dovetail this with culturally acceptable, technologically appropriate contraceptive methods minimally disruptive of lactation appeared to need wider recognition and definition for different circumstances

Similarly, there is very little recognition of the influence and impact of different community forces on the prevalence of breastfeeding, especially hospital practices, nor much awareness of the Code of Marketing of Breast Milk Substitutes.

This situation is understandable as almost no attention is paid to nutrition, especially to breastfeeding, in training curricula for medical and nursing students or other health care providers.

Conversely, health care providers seem to have a great deal of misinformation, partly influenced by educational material supplied by infant food companies. A new book, "Textbook of Pediatrics for Developing Countries," published by the Pakistan Pediatric Association, edited by Arif (1988) is an important move in the right direction.

Attitude. The attitude of the physician, whether pediatrician, obstetrician or private practitioner, reflects the lack of training and the hospital practices which influence success or failure. In particular, the obstetrician does not see prenatal preparation for breastfeeding as part of her or his duties.

This lack of knowledge and motivation inclines the physician to take the mother's "diagnosis" of "insufficient milk" as correct, without reviewing the situation or observing the nursing couple -- and readily and thoughtlessly to move the baby to bottle feeding. This will be with animal milk (a dubious product often diluted and contaminated with "canal water" prior to purchase), or formula, which cannot be afforded in sufficient quantities by poor mothers -- that is, the vast majority -- and almost inevitably prepared with dirty water.

All levels of health care providers are deluged with promotional material (literature, posters, calendars), free samples and gifts, including, for example, clocks and so-called "specials" (i.e., something that the individual says he or she wants). Blatant examples are found in private practitioners' clinics and hospitals. This can be seen in Fig: 4, where formula is included in the items provided for all so called "antenatal" mothers on admission to hospital just prior to delivery.

Practices. As mentioned earlier, clinical visits (Appendix:B) and information obtained in the seminars indicated that most relevant hospital activities -- prenatal clinics, maternity units, special care neonatal wards and pediatric outpatients and wards -- were not designed to facilitate breastfeeding. Rather, inadvertently they made it more difficult with old-fashioned practices, such as keeping mother and newborn apart, use of

FIG:4 Card (front and back) given to all mothers prior to admission to maternity unit showing items provided (August 1988) (Courtesy of ^{Dr.} Syed Rizwanuddin Ahmad)

B. O. H. Phone : 611873

Dr. Ziauddin Memorial Hospital
Plot No. 5, Block III, Nazimabad, Karachi.

ANTENATAL CARD

No. _____ Date _____

Name _____ Age _____

Husband's Name _____

Gravida _____ Hb _____ group

History _____

Occupation _____

Address _____

(Please write your official name)

NOTES	List of Articles
	Similac/Similac with iron 1 Tin
	Chlorhexidine
	Obstetric Cream 1 Bottle
	Olive Oil $\frac{1}{2}$ Lbs.
	Super X 1 Box
	Cotton 1 Lb.
	Safety pins
	Chloroxylonol 1 Bottle
	Bandage 6"—2
	Baby Powder 1
	Baby Soap 1

pre-lacteal feeds, and scheduled feeding regimen.

In prenatal clinics, it is not usually customary for obstetricians to examine pregnant women's nipples nor to advise mothers on preparation for breastfeeding as the best option, including attention to dietary improvement within local economic and cultural limits.

A serious defect in some hospitals was their role as promoter of bottle feeding -- both by posters and brochures for mothers, by easy access for formula company representatives and by accepting and distributing free samples.

5. CONSEQUENCES

5.1. Health. The dyadic consequences of the present feeding pattern are manifold. The sequence commences with a low birth weight baby (25-27% of all neonates), probably with poor fetal stores of various nutrients. Some degree of colostrum deprivation, various pre-lacteal feeds and the early introduction of inevitable contaminated "supplementary" bottle feeds leads to repeated attacks of diarrhea, a further restricted diet and marasmus. Risks are greater in the summer when flies increase the spread of diarrhea, and extra water is likely to be given to the infant (although this is not necessary in the breastfed, as has been shown in the extreme heat of summer in Lahore) [Ashaq, 1988].

Recent research papers presented at the seminars reconfirmed that most severely malnourished infants detected the first year of life had not been breastfed correctly. With regard to the newborn, a recent study of 1,475 births showed breastfed babies to have a neonatal mortality rate of 1.4% compared with 9.9% in the non-breastfed (Khan, 1988).

5.2. Population considerations. The effectiveness of breastfeeding as a biological method of child spacing varies with the pattern of infant feeding, especially the frequency of breast stimulation. The less than optimal breastfeeding customary in much of Pakistan has an anti-contraceptive effect (Kennedy, 1988) in a country striving for control of an almost geometric increase in population. The need is for a combination of lactation together with the introduction of culturally acceptable contraception at the locally most appropriate time.

5.3. Agro-economic. The agro-economic aspects of breastfeeding are often under-appreciated. Firstly, on a family basis, the cost of formula for a three month old infant would be at least 40% of a low-income family of three, such as the 47% of the population stated to earn 800 rupees/month or less. In other words, formula feeding is an impossibility. The inevitable results are very dilute, contaminated feeds.

On a national basis, breast milk production needs consideration. For example, it can be calculated that Pakistani

mothers are capable of producing more than 712 million litres of breast milk annually for babies born each year. If all of this had to be replaced by cow's milk or buffalo's milk, this needs the expenditure of more than 600 million rupees per annum; if replaced for expensive formulas, the estimated expenditure would be approximately 1800 million rupees each year.

Import figures are also important indicators. These are difficult to disentangle as items may be included in different categories. However, reviewing just one item labelled "Baby Milk," expenditure on imports rose from 75 million rupees in 1982-83 to 164 million rupees in 1985-86. This is more than double the expenditure of foreign currency and certainly a clear and measurable increase in bottle feeding using formula.

However, adjustment needs to be made because of the fall in value of the rupee, the increase in population in the country, and the rise in cost of formula. Also, it is not clear whether all foods intended for young infants, notably formulas, may also be included in other import categories. Assuming that most formula imports would be covered by the "Baby Milk" code number, the import figures in metric tonnes rose from 2,479 in 1982-83 to 3,981 in 1986-87 -- that is an increase of 60%.

Also, the financial drain of inadequate breastfeeding has to take into account more difficult costs to estimate, which are very important cumulatively. These include the cost of treating

diarrhoea and infant malnutrition, the cost of an increased family planning services and particularly unnecessary expenditure in maternity units.

5.4. Conclusion. The main need is to recognize that the promotion and prevention of the decline in breastfeeding is not just a minor issue. It is an important aspect of any child survival programme, as part of other important actions, such as oral rehydration, immunization and growth monitoring.

Breastfeeding has a very wide range of benefits, a fact which is usually under-appreciated. In fact the promotion of breastfeeding fits into projected Government policy, but needs more emphasis. It is related to many priorities in the 7th Five Year Plan, such as the reduction in infant mortality, the prevention of malnutrition and the reduction of infantile infectious disease (especially diarrhoea). It is also a part of the move toward trying to become more and more self-sufficient in foods and restrict expensive imports needing use of foreign currency, and forms one component of plans to limit excessive population growth.

Breast milk is a natural, national resource. It if is wasted then it has to be replaced and that means a financial waste as well as all the health ill-effects on young children so well appreciated.

6. RECOMMENDATIONS

6.1. Introduction. Owing to shortage of time, the three working groups³ of 10-15 individuals held at each seminar (except Muzaffarabad) were necessarily very brief (about 2 hours). Also, many of the participants in the working groups were not used to the rapid categorization required in this type of exercise and the rapporteurs had not more than 20-30 minutes to write brief recommendations on transparencies to present to the plenary session which followed immediately. For this reason, the regional recommendations were quite often statements and suggestions. Major excerpts were collected and presented at the final Islamabad seminar under nine overlapping headings: (i) Development of a coordinated national breastfeeding program, (ii) Regulation of the infant food industry, (iii) Support for relevant applied research of practical significance, (iv) Dissemination of information and motivation to the public, (v) Assistance for women in the work force, (vi) Investigate use of women's support groups, (vii) Revised up-to-date training of health professionals, (viii) Modification of health services, (ix) Appropriate use of donated mild supplements.

Similarly, at the National Workshop, only 3 hours were available for group discussion and one hour for reporting to the

3. Group: 1. Nutrition training and education for breastfeeding; Group: 2. Community aspects of breastfeeding programs; Group: 3. Practical management of breastfeeding in health services.

plenary session (November 23rd).

The National Workshop Recommendations were written on the evening of November 23rd and presented on the next morning (November 24th). As advised, they had to be synoptic and brief, on the assumption that busy policy makers would not have time to read detailed comments. For this reason, the following section (Para. 6.3) "Explanatory Notes" needs consulting in view of the many excellent detailed, but sometimes long-term or unrealistic suggestions made by participants which could not be included in the Recommendations. It is hoped that these will be helpful for selection in planning subsequent program developments.

Also, following the National Workshop, the Recommendations were modified slightly -- mostly related to organizational complexities -- following discussion with the top administrators in health and planning. In particular, the title of the National Program was changed to the "National Program for Breastfeeding and Infant Nutrition" at official request. As was emphasized during these discussions, this has the risk of "diluting" attention given to breastfeeding, but has the advantages of including human milk as part of the "transitional" diet of the weanling, and of highlighting the adverse role that commercial foods, allegedly designed for later infancy (such as "Follow-on Formulas", etc.) can play if they are actually psychologically channelled by advertising to younger infants, thus becoming BMS

(Breast Milk Substitutes).

Lastly, following the revision of the National Recommendations, a small group representing the Government of Pakistan, USAID, UNICEF and PRITECH consultants met to draw up a list of "Priority Actions" which could be undertaken immediately or in the next 6-9 months based on current information and resources.

6.2. Recommendations of National Workshops⁴

"To improve the present situation regarding breastfeeding in Pakistan and to implement a viable programme, the National Workshop has agreed on the following general recommendations:

I. DEVELOPMENT OF INFRASTRUCTURE: This would consist of the following:

I.1. National Breastfeeding and Infant Nutrition Committee, situated in the Nutrition Section of the planning commission, composed of (a) senior representatives of the Ministry of Health, (at the DDG level) (project of Department of Child Survival or PHC) and the Nutrition Section of the Planning Commission, and the National Institute of Health, (b) a full-time coordinator and a UNICEF-supported international counterpart, (c)

4. Based on the National Workshop held in Islamabad on November 24th, 1988, with modifications following discussions at the Ministries of Health, Planning, etc. and awaiting final approval.

representatives of USAID, UNICEF and WHO, representatives of the Population Welfare Division, the Women's Division, Ministry of Information and Broadcasting, and NGOs, and (d) appropriate pediatricians, obstetricians, etc.

The committee would have responsibility for programme formulation, technical assistance, securing funds, acting as focal point for national and international agencies, dissemination of information, development of training activities (especially "master trainers"), stimulation and funding of operational research, and monitoring and evaluation of the situation in different parts of the country and the effectiveness of programmes.

Such a committee would meet at least biannually, and would have an action-oriented Task Force, comprising the representatives from the Ministry of Health and the Nutrition Section of Planning, and the UNICEF-supported international counterparts. It would meet frequently not less than quarterly.

I.2. Provincial Technical Advisory Committees, made up of a senior representative of the Province Medical Department, the Nutrition Section coordinator or Project Manager, pediatricians, obstetricians, nursing tutors, NGOs and others as considered necessary.

Inter-provincial meetings would be held at least annually to coordinate activities.

I.3. District Level: implementation of programmes by District Health Officers/Medical Superintendents of programmes of DHQ.

II. CODE OF MARKETING OF BREASTMILK SUBSTITUTES.

The National Breastfeeding Promotion Committee (NBPC) should make every effort to ensure that the Code of Marketing of Breastmilk Substitutes is approved by the Ministry of Health and implemented nationwide. This should be consistent with the UNICEF modified Code.

III. DISSEMINATION OF INFORMATION AND MOTIVATION OF THE PUBLIC

Full emphasis on breastfeeding to be included in the National Comprehensive Nutrition and Education programme, together with the development of appropriate teaching-learning materials for all the different cadres. This needs to be undertaken through the following channels:

III.1. Non Formal Sector

III.1.1. Traditional and interpersonal channels

III.1.2. Mass Media. Employing social marketing, with the use of radio, T.V. spots and programs, videos, cinemas and newspaper articles and advertisements

III.2. Formal Sector

III.2.1. Teacher Training Institutes

- III.2.2. Agricultural Institutes
- III.2.3. School system - levels: Primary, Middle, Matriculation
- III.2.4. Use of religions and community leaders.

IV. SPECIFIC ACTIVITIES FOR WOMEN

- IV.1. Improved Female Education: Including both formal and informal (functional) education through various on-going programmes and new initiatives.
- IV.2. Assistance for Women in the Workforce
 - IV.2.1. Maternity leave: 3 months, flexibility before and after delivery, with reduction in work loads, up to a maximum of three children.
 - IV.2.2. Establishment of infant care facilities (creches) at the work place, where women are employed.
- IV.3. Investigate the use of Women's Support Groups for Breastfeeding
 - IV.3.1. Explore development of new groups, especially among urban educated mothers.
 - IV.3.2. Use existing women's voluntary organizations, such as APWA, etc.

V. REVISION OF GOVERNMENT FOOD AID POLICY.

with special reference to dried skimmed milk (see 6.3. "Explanatory Notes").

VI. HEALTH SERVICES

- VI.1. Multidisciplinary breastfeeding promotion committees should be established in all hospitals.
- VI.2. Health service facilities should formulate uniform standard policies for care of expectant mothers, including general health care, nutrition, counselling, and breast examination, and post-partum mothers and their infants.
- VI.3. Health care programs should be designed to assist breastfeeding mothers babies in both obstetric and pediatric units, in in-patient and out-patient, including specialized lactation clinics and counselors in larger units.

VII. TRAINING OF HEALTH CADRES

- VII.1. Revision of curricula for all health care providers, including obstetricians, pediatricians, medical and nursing students, to include nutrition, lactation and breastfeeding incorporating new information and methodologies.
- VII.2. Regional training centres with multidisciplinary teams of "master trainers" should be established in each province.
- VII.3. Teams of "master trainers" should be provided with appropriate intensive training in lactation management education to prepare them for their

responsibilities.

VII.4. Master trainers should provide refresher courses, workshops etc. for health care providers including general practitioners working in District Health Services and Tehsil.

VII.5. Teaching/learning materials need to be made available as appropriate for different levels.

6.3. Explanatory Notes. As mentioned earlier, the National Workshop Recommendations were designed to be brief and to cover the main points. At the same time, a considerable number of more specific suggestions were made both at the regional seminars and at the National Workshop. Some of these are summarized in Table:3. It is realized that they have different orders of priority or even feasibility. However, as expressions of opinion of experienced Pakistani health workers, they need careful consideration by the National Program committee.

As part of such considerations by those concerned with devising details for the National Program, various points of controversy may be noted.

Firstly, the question of the priority group for training will arise -- the professional leaders in pediatrics or obstetricians, or the much more numerous personnel in contact with pregnant and puerperal women -- the Lady Health Visitors (LHV), and particularly the large numbers of traditional birth

Recommendation from National Workshop	Terms used in Regional Seminars	Suggestions
I. <u>Development of Infrastructure</u>	Development of Coordinated National Breastfeeding Program	Interdisciplinary. Full-time coordinator. Balance size of committee (vs.) activity (? small technical group attached to committee.)
	Support for relevant applied research of practical significance	Evaluate existing or new breastfeeding programs (economics and health results in maternity hospitals.) Investigate community influences on infant feeding (including traditional cultural practices and check list of hospital practices). Devise appropriate "definitions" for different patterns of breastfeeding in Pakistan. Analyze "positive deviants".
II. <u>Code of Marketing of Breast Milk Substitutes</u>	Regulation of infant food industry.	Emphasis on control of advertising and free samples, including inappropriate promotion of weaning foods and "follow-on" milks. Consideration of methods to discourage promotion of feeding bottles, teats, pacifiers, commercial <u>ghutti</u> , low lactose formulas. Investigate possibility of restricting impact of formulas (selected by uninvolved pediatricians) to 2-3, based on least cases, nutritionally appropriate, non-advertised.
III. <u>Dissemination of Information and Motivation of the Public</u>	Dissemination of information and motivation	<ul style="list-style-type: none"> - Via radio, TV, newspapers, posters, booklets, etc. - Value of initial <u>Pakistan</u> film (c.f. Brazil) - Use of social marketing (including status, prestige, modernness) - Through schools (from primary level) and including teacher training colleges, in subjects such as "health", "science", etc. - <u>Non-commercial</u> pamphlets, brochures for mothers. - <u>Involvement of religious leaders</u> (? via discussion with "Koranic College") and use of elegant posters with special calligraphy for relevant quotations (in places of public gathering, hospitals). - <u>Involvement of non-governmental organizations (NGO)</u>, if possible via their council.

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38(4)

Recommendation from National Workshop	Terms used in Regional Seminars	Suggestions
IV. <u>Specific Activities for Women</u>	Assistance to women in the workforce	Develop "model" creches (with nursing breaks) at selected hospitals, health training centers, etc.
	Investigate use of women's support groups	Explore feasibility
V. <u>Revision of Government Food Aid Policy</u>	Appropriate use of donated milk supplements.	Attempt more appropriate use of DSM (? to schools, ? in locally prepared biscuits) ? Phase out, except for refugees, and/or replacement by available nutritious foods.
VI. <u>Health Services</u>	Modification of health services	Active promotion (modifications prenatal and postnatal procedures; ban commercial posters, literature, visits by salespersons; free samples; follow-up home visits by LHV; minimal bottle feeding policy) Special attention to private hospitals. Hospital policy and task force. Breastfed Baby Shows: <u>not</u> supported by formula industry. Integrate breastfeeding into other health and social services (including CDD, EPI, "Population Welfare", agricultural extension)
VII. <u>Training of Health Cadres</u>	Revised up-to-date training of health professionals	Modification of training at all levels to include practical aspects of nutrition and breastfeeding (including CDD, EPI, "Population Welfare," agricultural extension). Sensitization and training needed for administrators, medical specialists (obstetricians, pediatricians), general practitioners, Lady Health Visitors (LHV), pharmacists, traditional birth attendants (TBA) and <u>ayas</u> . Need for combined sessions for personnel concerned with perinatal care. Breastfeeding training units in all hospitals, especially teaching hospitals. Specialist courses for different cadres. Supply of appropriate teaching/learning materials, including library.

Table: 3. Explanatory Notes for Recommendations

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attendants (TBA). In fact, both have to be included, but the "educational cascade" has to encompass senior influential professionals who can influence by example and by developing breastfeeding teaching units.

Secondly, difficulty may arise with regard to teaching about "breastfeeding" in schools. This may be avoided by including the topic under the title "mother's milk" in books and courses on health or science.

Thirdly, the gap between obstetrician and pediatrician has to be narrowed if breastfeeding is to become the norm. In some countries, this has been assisted by having perinatal meetings -- or even associations.

Lastly, a current development in Pakistan is a new Health Education Program, designed by experts in social marketing, with attention both to mass media and direct communication. This certainly offers a major channel for information, persuasion and motivation regarding breastfeeding.

6.4. Priority actions. In order to keep up the momentum engendered by the Travelling Seminars, the following priority actions were suggested:

6.4.1. Immediate. -- A letter to all participants, (a) enclosing revised National Workshop Recommendations (preferably with "Explanatory Notes"), copies of 30 "Common Questions" and copies of "Programs to Promote Breastfeeding" as indicated for

maximum influence, from 60 extra copies being supplied by UNICEF, and (b) requesting information on actions taken on return in hospitals and elsewhere, for possible inclusion in a Newsletter, (c) publication of 30 "Common Questions" in the Pakistan Pediatric Journal.

-- Continuation of present UNICEF Short Term Consultant (STC) in Breastfeeding followed by another overlapping STC and thereafter by a new international UNICEF post on a 2-year contract, once the program has been initiated.

6.4.2. Near Future. In the next 6-9 months, the following actions should be undertaken:

-- (i) Formalization of details of the composition of the committees for the "National Program for Breastfeeding and Infant Nutrition" and initiation of meetings to decide on program priorities and mechanisms to achieve these.

-- (ii) Sensitization Visit: by selected group of policy makers to the Indonesian Breastfeeding Program (BKPPASI), (coordinators: Dr. Paul Matulesy and Prof. Moeljono, Department of Pediatrics, Diponegoro University, Semarang, Indonesia.)

-- (iii) Advanced Training in Lactation Management: selection of up to 18 teams for training at "Wellstart's Lactation Management Education Program" for Fall, 1989 and subsequent years, funded by USAID Child Survival funds available in Summer, 1989, in order to create permanent sustainable Pakistani-directed institutions for

current and future education and country-based training, consultation, research, evaluation, curriculum design and review.

-- (iv) Operational Research.

-- Evaluation of the effect of changes in maternity units in selected hospitals.

-- Detailed investigation of variation in infant feeding practices in rural villages and urban slums: Dr. Najma Rizvi suggested as anthropological consultant, familiar with the situation in the country.

-- Design and implementation of trial creches: in a factory employing women (? Supreme Match Factory⁵), a college and a hospital-medical complex (? Pakistan Institute of Medical Research), in cooperation with Begum Riazuddin, Director, Women's Division, Islamabad.

-- Investigation of the newly-formed Breastfeeding Mother's Support Group in Lahore: for educated women, including three TV actresses, under the guidance of Prof. Fahmida Jalil.

-- Review Questionnaire for Forthcoming National Demographic Survey: mainly focused on family planning, but with limited questions on breastfeeding, which could be increased to give more useful data.

5. Previously supportive production of UNICEF posters.

-- (v) Guidelines for Hospital Practices: to be initiated by UNICEF Breastfeeding Consultant, for approval by D.G., Ministry of Health for dissemination via a circular from the D.G. and/or publication in both the Pakistan Pediatric Journal and in a document sent via the Pakistan Obstetric Association.

-- (vi) Videotape/film: for policy makers and senior health workers, showing reasons for concern, causes and feasible remedies. The UNICEF Brazil film was regarded as a possible model for modification and the great usefulness of having consultation with Mr. Gerson da Cunha (UNICEF, New Delhi) or with Mr. Richard Manoff (or Ms. Marcia Griffiths) and others from Manoff International, was indicated.

-- (vii) Follow-up visit by PRITECH consultants to act as "focal point" for program developments and to assist in reviewing developments.

7. CONCLUSIONS

The Travelling Seminars were successful in drawing further attention to modern knowledge of the scientific advantages of breastfeeding, to the inadequate and declining situation in the country and the need for action to prevent its further deterioration.

Negative factors were: (i) the view by some senior health administrators that breastfeeding was not a high priority issue ("breastfeeding widespread" -- "infant mortality fell in Europe while breastfeeding declined" -- "it is the water supply that is the priority" -- "malnourished mother can't produce enough milk" -- all standard formula company propaganda);

(ii) the deeply entrenched bottle feeding industry with extensive entanglement of health professionals (including those in general practice) via promotional practices;

(iii) the lack of interest by many obstetricians (who need to be reminded of the advantages of early breastfeeding to the mother and their role as "pediatricians of the fetus") and by general practitioners.

Disquiet about the breastfeeding pattern in Pakistan is not new and concern has been expressed for several decades by such pioneers as Prof. S. Wasti. Certainly, the situation has deteriorated greatly since one of the consultants visited the country in 1954 (Jelliffe, 1955). What is more, similar

recommendations to those resulting from the Travelling Seminars and the National Workshop were made in 1982 (Ali, 1982), but apparently were not implemented.

The need has increased compared with six years ago, with rapid urbanization, accumulating commercial pressure and rising economic problems.

At the same time, the potential for initiating and sustaining a locally relevant practical program is much greater. The knowledge of what to do is now available based on experience around the world in both more and less technically developed countries (Jelliffe & Jelliffe, 1988b). In Pakistan, major immediate needs are modification of health services and training of health professionals, and dissemination of modern information. Both are feasible and may be expected to be priorities in the National Program.

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APPENDICES

APPENDIX: A

Representative Press Coverage

Battling the bottle

A **KARACHI** seminar on child survival has highlighted the importance of breastfeeding for children's health. It is now widely recognised that a major cause of the high infant mortality rate in Pakistan is diarrhoea induced by bottle-feeding. A UNICEF representative informed the seminar about a hospital study which found that 70 per cent of infant deaths were directly related to bottle-feeding. This is not the only negative aspect of the widespread use of Breast Milk Substitutes (BMS). Prevalence of malnutrition in young children who are bottle-fed and a high fertility rate on account of the loss of contraceptive protection of complete breastfeeding are also matters which should cause serious concern in health circles. They should also take note of the alarming decline in the practice of breastfeeding. In 1977, 65 per cent of the mothers were breastfeeding their infants. In 1985 this figure was only 15 per cent. This trend is worth investigating especially because it has occurred at a time when a worldwide campaign against BMS had been launched.

Although ignorance and lack of health education on the part of mothers have contributed to the rise in the ratio of bottle-fed babies, the role of the multinationals in promoting the use of BMS cannot be overlooked. Their aggressive marketing and advertising techniques have played havoc with a traditional practice that had been in conformity with socio-cultural and religious norms of the country. Sales promotion drives by baby food manufacturers have encouraged the false belief that BMS are health-giving and nourishing. Moreover, by distributing

free samples in maternity homes and clinics, many manufacturers ensure that the infant gets his first bottle within a few hours of birth. It is distressing that the 40 or so baby food manufacturers operating in Pakistan have been allowed to get away with such unethical marketing strategies. All this has been taking place when other governments have been striving to check the multinationals' bid to expand the sales of baby food. WHO's International Code of Marketing of Breast Milk Substitutes — which lays down guidelines such as ban on unethical mass media advertising, improper labelling and promotional samples — is now finding acceptance in a growing number of countries. Nearly 40 governments have enforced the entire code or part of it as law.

Others have given effect to it as a voluntary measure. But Pakistan has done neither. There is no systematic monitoring of the violation of WHO's code in this country. No wonder the baby food manufacturers can get away with practices which should not be permitted. A measure of the gravity of the problem is that only a few months ago one of International Baby Food Action Network's consultants had documented 264 violations of the WHO code during an eight-day survey in Pakistan. It is time the government took urgent measures to discourage the sales promotion of BMS. While mothers need to be reminded that breast milk is natural, nourishing, hygienic and economical, the baby food manufacturers should also be prevented from unethical advertising which is misleading, ill-conceived and harmful.

("DAWN", NOV. 7)

SUNDAY 13 NOVEMBER, 1985

Breast-feeding is best for infants

By Our Staff Reporter

LAHORE, Nov. 12: Punjab Health Secretary Parvaiz Masood has strongly criticised the "aggressive propaganda" unleashed by the infant formula manufacturers, which he charged was designed to enhance their marketing and cause a decline in the practice of breast-feeding at a high cost to child survival and development.

Addressing the inaugural ceremony of a two-day seminar on 'Breast Feeding for Child Survival' at Fatima Jinnah Medical College on Saturday, Mr Masood stressed the need of imposing a check on this trend, adding that it should rather be reversed in order to save the child.

He observed that the introduction of bottle for feeding in an environment marred by poor availability of safe drinking water, high illiteracy and lower socio-economic conditions inevitably lead to a vicious circle of malnutrition and diarrhoea.

He expressed the hope that the

deliberations of the seminar would help to evolve a package of concrete and practical recommendations for initiating an organised effort for the promotion of breast-feeding.

Earlier, UNICEF Resident Programme Officer, Ms Birgitta Anderelt said that the bottle feeding of infants increased sharply the risk of malnutrition, infection and death.

The two-day seminar has been jointly organised by the Government of Pakistan, USAID, UNICEF and the Pakistan Paediatric Association.

The Seminar is also being attended by renowned authorities on infant nutrition and breastfeeding Dr Derrick and his wife, Patrice Jelliffe and Director of Lactation Management Education Programme Dr Audrey Naylor who are presenting their research papers based on research in a number of developing countries.

Breastfeeding vital for child survival

A two-day national workshop on breastfeeding for child survival was inaugurated in Islamabad on Wednesday which is being participated by the representatives from all the provinces and Azad Kashmir. It marks the culmination of six regional seminars already held at Karachi, Lahore, Multan and Muzaffarabad.

Sponsored by the Government of Pakistan, Pakistan Paediatrics Association, United States Agency for International Development (USAID) and the United Nations Children Fund (UNICEF), the aims of the seminars include sensitisation of health professionals and others to the importance of breastfeeding, provision of modern scientific information regarding breastfeeding and lactation management and stimulation of programme development for the profession of breastfeeding.

The Director-General of Health, Dr. A.J. Khan, inaugurating the workshop, pointed out that the threat of bottle-feeding was booming large in the country at a great risk to the child health and survival. He stressed the need for taking concrete steps to deal with this problem and said that breastfeeding must replace the bottle-feeding in the larger interest of the future generations. He said that the well off families adopt the practice of bottle-feeding which is ultimately followed by the poor families and this trend is spreading dangerous diseases like diarrhoea. The major cause of increased morbidity and mortality among infants was obviously the malnutrition and infection resulting from unhygienic bottle-feeding, he added.

He said that the country's population was exploding at the rate of three per cent per annum and four million children were born every year. Pakistan, he said, had to spend a huge amount on purchase of infant feeding bottles and milk formulas every year which was more than what the Government was spending on health care of the whole country. This amount could be saved by promoting breastfeeding for which due importance

would have to be attached to provision of more and better food to the women. This would go a long way in proper nutrition of the infant as well.

Earlier, Dr. Kiawaja A. Abbas, in his address of welcome said that it was for the first time that seminars on such an important subject was being held in Pakistan. The chief of the Nutrition Section Planning Commission, Dr. Mushtaq A. Khan, in his keynote address informed the participants of various measures the Government was taking for the promotion of breastfeeding in the country.

The UNICEF representative, Mr. Kunio Waki, in his speech, said that promotion of breastfeeding was one of the major tasks for the UNICEF during the next five years. He was encouraged to note that promotion of breastfeeding was being considered to serious programme in Pakistan and said that the nutrition health planners would have to make important contributions to make this programme as a success.

The chief of Health, Population and Nutrition Office, USAID, Mr. Ray Martin, in his speech, said that USA was particularly interested in promotion of breastfeeding and noted that Pakistan was making appreciable progress in this field. He said that breastfeeding was also in consonance with the Islamic teachings. He pointed out that advantages of the immunisation would be eroded away if the spread of bottle-feeding was not stopped.

An international expert, Dr. Derrick Jelliffe, also spoke on the occasion. He said the seminar has a multipurpose objective to promote the breastfeeding by seeking cooperation from other departments like agriculture, information, planning, education, social welfare, etc.

In its session tomorrow, the workshop is expected to draw up a comprehensive package of recommendations for development of breastfeeding in Pakistan.—APP.

(PAKISTAN TIMES, ISLAMABAD, NOV. 24)

The Pakistan Times, Tuesday, November 29, 1983.

Breast-feeding vital to child's health, growth

By a Staff Reporter

Breast-feeding is the most modern, and scientifically up-to-date method of infant feeding according to the latest research.

This was stated by Derrick B. Jelliffe, a visiting pediatrician, at a briefing on "Breast-feeding and National Development in Pakistan" on Monday.

He said that breastmilk has many biochemical and nutritional advantages and many anti-infective substances and cells that prevented the child from diarrhoea and marasmus.

He said that bottle feeding has disastrous affects in Katchi Abadis and rural areas. This leads to dilution, dirty feeds, leading to diarrhoea and death.

Bottle feeding also required adequate money to buy alternative milk, a reasonable home hygiene and parental education, he added.

He said that the alarming birth rates, about 4 million per annum, is because of the bottle feeding that leads to shorter biological birth spacing.

Not only the breast fed child is the best fed, but also breast-feeding benefits mothers in child spacing, mother-infant bonding and in maintaining good health, he said.

According to an estimate if milk needed for babies born in a year had to be replaced by buffalo's milk or any other substitute, it would cost more than Rs. 60 crore per annum. Expenditure on import of baby milk has risen from Rs. 75 million in 1962-63 to Rs. 164 million in 1985-86 in Pakistan, he

added.

He said that physicians needed training. Hospital routine should be evolved in such a way so as to facilitate breast-feeding, he said.

Mr. Jelliffe said that their efforts have born fruit and the tendency of breast-feeding is increasing. Although organisations like UNICEF and NGOs provide assistance to achieve this end it is important that a campaign should be initiated against bottle-feeding through mass media, he said.

He said that the national programme to promote breastfeeding included modification health services, reconsideration role of the infant food companies, training health professionals, modifying hospital practices and information dissemination.

The Ministry of Planning agreed to develop a national breast-feeding promotion committee, that will have a Co-ordinator from the Ministry of Health and Provincial Technical Advisory Committee to elucidate recommendations at Travelling Seminars, he said.

(ISLAMABAD)

APPENDIX: B

Visits to clinical settings and the community

Visits were made to the following health care settings:

- 1) Karachi, November, 8 1988
Pediatric Unit of the Institute of Post-Graduate
Medicine, National Institute of Child Health
- 2) Peshawar, November 10, 1988
Pediatric and Obstetric Units, Lady Reading Hospital
- 3) Lahore, November 11, 1988
Neonatal Special Care Unit and Community/Social
Pediatric Clinic facilities, Ganga Ram Hospital
- 4) Multan, November 14, 1988
Pediatric Unit and Delivery Room, Nishtar Hospital
Delivery, Post-partum and Sick Baby Unit, Women's
Christian Hospital
- 5) Islamabad, November 17, 1988
Health Education and Women and Children's Clinic,
Sweepers Colony
- 6) Muzaffarabad, November 10, 1988
Pediatric and Obstetric Units and Outpatient Clinics,
Combined (Civil/Army) Medical Hospital
- 7) Islamabad, November 23, 1988
All services of the Children's Hospital of the Pakistan
Institute of Medical Science

(a) Clinical settings:

Common to all units visited were nursing staff shortages. Nearly all used minimally trained (and often illiterate) aids (ayas). All pediatric units, other than neonatal special care units, required parents to remain with children and assist in their general care. All provided food for these family members.

Significant observations related to breastfeeding promotion in these settings included the following:

Obstetrical. Three of the four delivery units delayed first feedings and provided an initial glucose water feeding. Glucose water between feedings was also common, as was the use of formula supplements. Skilled help for breastfeeding mothers was not generally available.

While most normal mothers and infants eventually roomed-in in these facilities, a period of initial separation was also common. For infants with problems justifying separation, breastfeeding or use of expressed breast milk was given little more than lip service.

In one unit, a physician who had attended the seminar had decided to begin to encourage immediate nursing. Unfortunately, the actual procedure and assistance for the mother was being delegated to the aya, the least trained person among the care providers.

Among obstetrical units visited, one, the Women's Christian Hospital in Multan, had instituted sound procedures, with early nursing, no prelacteal feeding, rooming-in, and no supplements of water or formula. Mothers were reported to receive assistance with breastfeeding from a skilled nurse.

Even though most deliveries do not occur in these facilities, the style and standards of care tend to set the trends and strengths and weaknesses will be repeated throughout the health care system. Bottle feeding in hospitals and clinics will not promote breastfeeding in the community.

Pediatric. Family members were required to stay with children in all units to provide general care. Most frequently, with infants and younger children, it was the mother who was at the bedside. Thus, if she was breastfeeding, the process could continue. In many cases, however, the hospitalized infants were not breastfed. (Usually this was, in fact, a major contributor to their disease, commonly diarrhea/malnutrition.)

Staff in all units expressed an interest in promoting breastfeeding. However, with one exception, there was no formal practical effort. Bottles and formula were usually visible; commercial posters were frequently present; and no assistance was given to mothers. This would have been particularly appropriate in cases where infants were being tube-fed and help with expression of breast milk would have been beneficial. In

addition, no unit had a program of relactation for mothers of younger infants.

In the three special care units visited, an interest in using human milk was stated, but always with a description of the difficulties in obtaining milk from the mother. In some cases, infants had been transferred into these units, and there was no facility for mothers to remain. Unlike the situation in the pediatric wards, family members were not allowed to participate in any aspect of the care of their children.

In one unit (the Children's Hospital of the Pakistan Institute of Medical Sciences, Islamabad), a plan is under development for a mother's hostel where mothers can remain and be available to express their milk or, when the infant is able, feed their baby. This unit will have a dormitory for 20 mothers, laundry facilities, showers and a kitchen where the mothers can fix light meals. While such an elaborate facility is not likely to be available in many other hospitals in the foreseeable future, this type of unit could possibly be encouraged to carry out research on such issues as the practical aspects of developing a "breast milk as house formula" program for neonatal units. Such a unit could also become an important "standard setter."

(b) Community visit.

One half day was spent visiting a sweeper colony in Islamabad. The colony housed about 120 families. Housing was built by the residents of mud, scrap brick and stones, and scrap wood. Most families (with 6 or 8 members) shared one or two rooms. Piped water and electricity were available to most dwellings. Cooking was done on small wood fireplaces in the small courtyard attached to these dwellings. There were neither latrines nor sanitary facilities.

During this visit, observations were primarily focused on two health care projects developed by Dr. Gilian Burton. The first was a one-hour health education session provided weekly for mothers in the colony. The class was taught by a local resident (wife of a minister) who had been tutored by Dr. Burton. About 30 women, most accompanied by their infants and toddlers, crowded into the sleeping room of one of the families to attend. The session focused on care of sick children. The group seemed interested and responsive; there was a nice sense of sharing and enjoyment.

The second observation was carried out during a women and children's clinic session run by Dr. Burton. Immunization, growth monitoring, feeding advice, care of minor illnesses, is provided. Because of the holiday (elections), only a few patients came for care. One child, one year old, still totally

breastfed, appeared developmentally normal, and well nourished, with weight above the 50th percentile. Another, age 6 or 7 months, on over-diluted buffalo milk since 3 months, weighed over 4 kg, a weight well below the 10th percentile. This mother had been incorrectly advised by a doctor in a local hospital to stop breastfeeding three months before because she had hepatitis.

APPENDIX: C

Breastfeeding in Pakistan:

A Review of the Literature.

BREASTFEEDING IN PAKISTAN: A REVIEW OF THE LITERATURE

Luann Martin
UNICEF Breastfeeding Consultant

Information on infant feeding practices in Pakistan is found in nutrition, demographic, medical, sociological, and anthropological studies. Some studies involve in-depth interviews and observations in a few households. Other studies provide answers to general questions on breastfeeding from a representative national sample. Several major themes emerge in this review of nearly 30 studies.

1. The incidence of breastfeeding may have declined during the past ten years, particularly in certain subgroups. On a national level, the incidence remains high.

2. Inappropriate feeding practices persist which contribute to growth failure. These practices, listed below, interfere with breastmilk production and expose infants to contaminants.

- a. Delayed initiation of breastfeeding
- b. Prelacteal feeding
- c. Early supplementation with breastmilk substitutes, water, and other liquids

3. There are conflicting reports as to whether the total duration of breastfeeding has declined in recent years and if so, to what extent. True duration, that is the period of exclusive breastfeeding, may be much shorter than previously believed. Longitudinal studies conducted throughout the country are needed to determine true duration, total duration, and feeding practices.

4. Delayed introduction of semi-solid foods is a widespread practice with serious consequences for infant health and growth.

5. Improper dietary management during diarrhoea is reported in several studies. Frequent breastfeeding should be an important component in oral rehydration therapy, yet in some parts of the country, around ten percent of the mothers stop breastfeeding during diarrhoeal episodes.

INCIDENCE (proportion of infants ever breastfed)

The 1964-66 Nutrition Survey of West Pakistan indicated that 99.3 percent of mothers breastfed. National studies conducted during the past five years report that the present rate is anywhere between 90.8 percent (Population Welfare Survey, 1983) to 98 percent (Contraceptive Prevalence Survey, 1984). National figures mask what is happening in certain groups. For example, a study of over 400 pregnant women from middle and lower social economic groups in Karachi reported that only 68 percent breastfed their last child. (Khan and Gureshi, 1983)

INITIATION OF BREASTFEEDING

With the exception of the Diarrhoeal Disorder study of the Planning and Development Division, information on the time at which breastfeeding is initiated comes from local studies. The majority of women in these studies initiated breastfeeding some time after the first day as seen in the table below.

Table 1 Timing of breastfeeding initiation
(percentage of women)

	Natl. Diar- rheal Study (GOP)	Rural Balu- chistan (UNICEF)	Karachi slums (Mirza)	Islamabad villages (Tabassum)	Lahore & villages (Jalil)
1st day	44	25	13	7	
2nd day	15	28	37	32	50
3rd day	35	42	17	60	
4th day	6	5	31	1	50

Breastfeeding is best established when the infant is put to the breast as soon after birth as possible. When breastfeeding is delayed for a couple of days, the infant is deprived of the nutritive and anti-infective properties of colostrum, the yellowish fluid secreted during the first days after birth.

In 1986 a study was made of the knowledge, attitudes, and practices of 180 traditional birth attendants (TBAs) from Sanghar (Sind), Faisalabad (Punjab), and Abbotabad (NWFP). The study was part of an evaluation of a TBA training programme. Only 57 percent of the trained TBAs said that breastfeeding should be initiated on the first day. Sixteen percent recommended initiation on the second day, 7 percent on the third day, and 18 percent after the third day. (UNICEF, 1986)

Over 90 percent of rural women in Pakistan are attended by traditional birth attendants. Hence, it is important that TBAs understand the value of colostrum so that they will promote early initiation of breastfeeding.

COLOSTRUM

Breastfeeding is often delayed because women think that colostrum is harmful. In a study of 50 mothers in a private Karachi clinic, only 28 percent of the women thought that newborns should receive colostrum. Forty-five percent thought that colostrum was a waste product that should be discarded. Eighteen percent believed that colostrum was harmful to a baby's health. Eight percent were advised by their physician to delay initiation. (Latif, 1984)

The women in the Karachi study were from the upper middle income group. Similar attitudes are found among rural women. Eighty percent of the women interviewed in rural Baluchistan regarded colostrum as bad milk and dangerous. (UNICEF, 1988) Women in rural Sind described colostrum as "stale" milk. (Sivji, 1988)

In reading the literature, one suspects that some women believe that colostrum is only present in the first few drops of milk. After discarding these drops, they may mistakenly believe that they are rid of the "bad," "rotten," or "stale" milk. All milk secreted during the first two to five days is colostrum. An example of this confusion appears in a study of health beliefs and practices of mothers in Chitral. Ninety-six percent of the mothers said that they initiated breastfeeding within 24 hours after birth. Yet the same study reports that half of the women did not give the "first milk" after birth because it caused "khudakan" (neonatal tetanus) or was bad, dirty, or "hot." (Mull, 1988)

PRELACTEAL FOODS

Prelacteal foods are non-milk substances given to infants before or in combination with breastmilk and breastmilk substitutes during the interval between birth and the first appearance of mature breastmilk. Sometimes these substances are given with the intention of clearing the gastro-intestinal tract. Prelacteal foods supply only trivial amounts of nutrients and increase the risk of exposure to pathogens.

Although there is little quantitative data in Pakistan on the actual diet fed to newborns, several studies give qualitative information on the neonatal diet. A study of over 1,000 infants in and around Lahore provides the most comprehensive information on the subject. (Jalil, 1987)

Table 2 Prelacteal foods and breastmilk substitutes given to newborns in four population groups in and around Lahore, Pakistan*

Area	Total no. infants	Ghutti	Herbal mixture	Sugar	Gur	Honey	Ghee	Water	Animal milk
Village	467	1%	80%	11%	2%	4%	4%	1%	10%
Mud hut	351	7%	83%	54%	27%	9%	5%	3%	7%
Slum	269	3%	7%	10%	<1%	87%	1%	4%	<1%
Elite	194	-	4%	12%	-	57%	-	84%	40%
Total	1281	3%	54%	23%	8%	30%	3%	15%	12%

* Columns do not total 100% because mothers may have given none or more than one substance.

"Ghutti" - a mixture of herbs crushed into a soft ball

"Gur" - sugar cane juice dried into lumps

"Ghee" - polysaturated fat from buffalo butter
 The "herbal mixture" is a concoction made up of four kinds of flowers left in water that is poured off after a few days. The extract is kept for years and used for subsequent children.

BREASTMILK SUBSTITUTES AND OTHER LIQUIDS

Breastmilk substitutes refer to fresh animal milk, modified animal milk (infant formula and powdered, evaporated, and condensed milk), and soy-based infant formula. Sometimes the term is more broadly defined to include any liquid that replaces breastmilk such as water, teas, juices, etc.

Studies frequently use the term "exclusively breastfed" but no definition is given. The term suggests that an exclusively breastfed child is one that receives no breastmilk substitutes, semi-solid foods, water, or other liquids. However, some researchers label infants who receive water in addition to breastmilk as "exclusively breastfed." The most rigorous definition goes as far as to exclude an infant who drinks expressed breastmilk from a bottle or sucks on a pacifier.

Studies in the Punjab suggest that babies seldom are fed nothing but breastmilk. In an article entitled "Breast Feeding in Reality," Hanson et al. writes:

In Lahore, as in many other communities, the incidence of breastfeeding has been declining. In 1983, 73% of the infants were breast-fed and given extra water during the first month of life. There was a continuous decline in breastfeeding during the following months. In a detailed follow up of the feeding patterns of infants in the slums of the city of Lahore and a village outside in 1984-85, cross-sectional analyses showed that just 20% were given "only breast milk" at one month of age. On further analysis all but 4 of the 50 infants in this group used a soother, which was never washed. By 2 months of age no more than 12% of the infants were "exclusively" breast-fed. The others were given buffalo milk via bottle as well (31%), extra water (42%) or bottle milk only (12%). During the following months, a few more infants were given water than buffalo milk, in addition to the breast milk. Only 3% were still "exclusively" breast-fed at 6 months." (Hanson, et al., 1986)

Nagra and Gilani's longitudinal study of 916 infants in Faisalabad supports Hanson's assertion that exclusive breastfeeding is the exception rather than the norm. By three months, 60 percent of women from high income groups, 52 percent from medium income groups, and 42 percent from low income groups supplemented breastmilk with infant formula or fresh animal milk. Undoubtedly, the figures would be even higher if they included infants who were given water in addition to breastmilk. (Nagra and Gilani, 1987)

In addition to these two major studies in Lahore and Faisalabad, smaller studies indicate that mixed feeding or partial breastfeeding (sometimes referred to as the "triple nipple syndrome") is commonly practiced in the Punjab. A small anthropological study in two rural villages in Faisalabad District found that 35 percent of infants under six months of age were fed buffalo milk in addition to breastmilk. (Rizvi, 1988) A study of 100 mothers in a Lahore katchi abadi reported that over one-half of the infants between two to six months of age received bottle feedings. (Zia, 1984)

In other parts of Pakistan, several small studies suggest that breastmilk substitutes are widely used. Higher income groups are more likely to use infant formula whereas lower income groups use fresh animal milk, especially buffalo milk in the Punjab.

Out of 60 mothers interviewed in rural Baluchistan, one-fourth were bottle-feeding their infants. (UNICEF, 1988) In a Karachi study of 252 infants, 32 percent were breast and bottle-fed and 18 percent were "exclusively bottle-fed." (Lambert and Khan, 1984) In the future, researchers reporting on breastfeeding patterns should give more precise references to the child's age. Without this information, one does not know whether bottle-feeding is primarily among children in early infancy, late infancy, or over 12 months of age.

DURATION

Collecting data on breastfeeding duration poses several problems. First of all, there is the difficulty of calculating duration for women who were lactating at the time of the interview. Secondly, responses from women who have stopped breastfeeding depend on recall of an event which may have occurred months if not years ago. Consequently, the data is "heaped" at six month intervals. The table below shows the duration figures cited in major national surveys since 1974.

Table 3 Estimates of total duration in months of breastfeeding from the Pakistan Fertility (PFS), Pakistan Labour and Migration (PLM), and Pakistan Contraceptive Prevalence (PCPS) Surveys. (Dates refer to approximate birthdates of children being breastfed.)

	PFS <u>1974</u>	PLM <u>1979</u>	PCPS <u>1983</u>
Total Pakistan	17.2	14.6	22.9
Urban	15.2	11.8	20.0
Rural	17.9	15.5	24.0
Punjab	17.3	15.8	21.3
Sind	16.7	11.9	24.6
NWFP	17.7	15.4	27.2

The above table is reproduced from Thomas Pullum and Antul Hafeez Mirza's paper on "The Determinants and Consequences of Breastfeeding in Pakistan: Estimates from the Pakistan Contraceptive Prevalence Survey." The authors state that "it is unlikely that there is a trend toward longer breastfeeding. It is likely that the PCPS contained some kind of bias which artificially inflated the duration of breastfeeding across the board."

Comparing studies on breastfeeding duration is very difficult because the samples are different and the methods used in calculating duration are not the same. Even researchers reporting on the same survey give duration estimates that can vary by as much as three months. Given these various problems, one must be cautious in reporting on trends.

DURATION DETERMINANTS

Some of the most extensive analyses of factors affecting duration are found in reports on the Pakistan Fertility Survey. Shah (1984) controlled for the following variables:

- (1) Residence: Place of residence was the single most important variable. The average length of breastfeeding was 4.4 months less among urban residents than rural residents.
- (2) Mass Media: Women exposed to the mass media breastfed 3.6 months less than those who were not exposed.
- (3) Occupation: Women in non-farm occupations breastfed 2.5 months less than women involved in agricultural activities.
- (4) Age: Women 15-24 years of age breastfed 4.8 months less than women 35-44 years of age.
- (5) Education: Women with secondary education breastfed three months less than women with primary education and four months less than illiterate women.
- (6) Region: The mean duration of breastfeeding by region controlling for education, rural-urban place of residence, parity, and age was Baluchistan, 16.1 months; Sind, 16.2; Punjab, 17.7; and NWFP, 19.9.

The 1985-86 National Nutrition Survey and the 1984-85 Contraceptive Prevalence Survey both found that the two most commonly given reasons for stopping breastfeeding were pregnancy and the child's age ("old enough"). These two responses totalled around 70 percent of all responses. The third most frequent response (19 percent in both surveys) was insufficient milk or "milk dried up". Mother's health was mentioned by 20 percent of the mothers in the Contraceptive Prevalence Survey and 4 percent in the Nutrition Survey.

WEANING

"Weaning" is one of the most confusing terms used in the literature. Does it mean the process by which foods are given in addition to breastmilk or instead of breastmilk? In some people's minds, weaning begins when exclusive breastfeeding stops. To other people, weaning starts with the introduction of semi-solid foods. The terms "supplementary," "complementary," and "replacement" feeding have all been suggested as an alternative to the term "weaning," but no consensus of opinion has yet been reached in the research or development community.

Pullum and Mirza's analysis of the Contraceptive Prevalence Survey indicates that the median age at which "full breastfeeding" stops in Pakistan is 8.6 months. By "full breastfeeding," they mean the period when no breastmilk substitutes, solid or semi-solid foods are given to a child. The median age for the completion of "full breastfeeding" in the NWFP was 11.0 months. (see Table 4)

Table 4: Life table estimates of the percentage of women breastfeeding their last child without supplements at specified durations, and the median duration at completion of full breastfeeding, from the PCPS. Reference period for most births is 1984.

	<u>3 mos.</u>	<u>6 mos.</u>	<u>Median.</u>
TOTAL PAKISTAN	89	75	8.6
Punjab	81	66	7.9
Sind	90	81	8.4
NWFP	99	93	11.0
Baluchistan	96	81	8.7

Fourteen percent of the mothers said that they gave infant formula as the first or second supplemental food. Sixty-four percent said that powdered milk or animal milk was the most common supplement. In the Northwest Frontier Province and Baluchistan, breads (rotis, nan, chapatis) were frequently the first supplemental foods.

Out of 6,000 mothers interviewed in the 1985-86 National Nutrition Survey, 29 percent said that they introduced breastmilk substitutes or semi-solid foods during the first six months. Nearly half of those who started the weaning process at this age gave fresh animal milk or infant formula.

Why do the Lahore and Faisalabad studies discussed in the section on breastmilk substitutes show a much higher rate for use of breastmilk substitutes than what was reported in the National Nutrition and Contraceptive Prevalence Surveys? Further research is needed to determine whether breastmilk substitutes are introduced at a younger age

in the Punjab than in other parts of the country. Perhaps the questions were worded in ways that elicited different responses.

Table 5 lists various studies which discuss the point at which semi-solids or solid foods are introduced in a child's diet. It should be kept in mind that this table, unlike table 4, does not include breastmilk substitutes. Both tables indicate that in many parts of the country, semi-solids are introduced long past the recommended age of four to six months.

Table 5 Timing of the introduction of solid or semi-solid foods in Pakistan as reported in eight studies

<u>Location</u>	<u>Researcher</u>	<u>Timing</u>
Faisalabad	Nagra and Gilani (1987)	at 12 months, introduced to 99% of children in upper income group, 73% in middle income group, and 40% from low income group
Karachi katchi abadis	Mirza (1987)	one-third by 5 months
Karachi	Khan and Lambert (1984)	65% by six months
Chitral	Mull (1988)	12% by 6 months, 19% between 7-11 months, 49% by 12 months
Peshawar and nearby village	Akhtar (1982)	65% said proper time to introduce was after 12 months
Rural NWFP	Hussain (n.d.)	22% by one year
Rural Baluchistan	UNICEF (1988)	average age 8.3 months
Rural Islamabad	Lambert, Whaley, Khan (1984)	average age 9.4 months

SEX BIAS

In reviewing the literature on sex biases in feeding practices, no clear picture emerges. Most studies (1985-86 National Nutrition Survey, Rizvi, Manzoor, T. Khan) show no differentiation in feeding practices. The Pakistan Labour and Migration Survey found that women between the ages of 35-49 breastfed their sons 2.5 months longer, on the average, than their daughters. Mothers interviewed in Lahore said that boys should be breastfed longer than girls and reported introducing solid foods earlier to their sons. (Lovel, Sabir and Cleland) On the other hand, Lambert and Khan found in their Karachi study that girls were

breastfed longer than boys. Of the infants never breastfed, all were boys.

FEEDING DURING DIARRHOEA

In the 1985-86 National Nutrition Survey, the question was asked, "When your baby had diarrhoea, what did you do about his feeding?" Eleven percent of the replies were, "stopped milk." The report does not make a distinction between different kinds of milk. In Chitral, 16 percent of the mothers thought that breastfeeding should stop or be reduced when a child has diarrhoea. (Mull) In the Peshawar area, 36% stopped breastfeeding for the period of the diarrhoea. (Ahmed and Akhtar) Twelve percent of the mothers interviewed in six villages in the Punjab said that they stopped breastfeeding during diarrhoeal episodes.

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APPENDIX: D

Breastfeeding in Pakistan:

Thirty Key Questions.

BREASTFEEDING IN PAKISTAN

(Thirty Key Questions)†

by

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The following were the 30 commonest questions asked during the Travelling Seminars: Karachi, Lahore Peshawar, Multan, Muzaffarabad and Islamabad (November 6-24, 1988), sponsored by the Government of Pakistan, the Pakistan Pediatric Association, USAID and UNICEF.

(1.) Q: Why should we be concerned when breastfeeding is reported to occur in more than 90% of the infant population of Pakistan?

A: Because it is often delayed in initiation and "partial" or "mixed", with bottle feeds introduced from early days or weeks. This increases the risk of diarrhoea, decreases breast milk secretion, as a result of diminished sucking, and often leads to the early cessation of lactation.

(2.) Q: What is the point of breastfeeding at, or as soon as possible after, birth? Surely, the mother is tired and needs to rest.

A: This is the optimal time to initiate lactation (as the neonate is unusually alert), to obtain valuable colostrum, to facilitate mother-child bonding, and to help the mother (placental expulsion; limiting post-partum haemorrhage resulting from oxytocin-induced uterine contractions).

(3.) Q: Isn't it wise to test the baby's swallowing after birth by giving water or glucose water before the first feed?

A: This is not necessary. Tracheo-oesophageal fistula is rare, and, even if present, colostrum will be less harmful than water, if inadvertently inhaled.

(4.) Q: Colostrum seems to be much discussed nowadays. Why is this?

A: Colostrum is the yellowish first milk, secreted in later pregnancy and during the first days after birth. Modern immunological studies indicate increasingly that it is a "biological umbrella" for the vulnerable newborn, containing large amounts of protective substances and cells, particularly active against bacteria and viruses causing diarrhoea. Less appreciated, colostrum makes available rich "doses" of some nutrients, especially zinc and vitamins A and E. It also acts as a very mild laxative, helping to clean the neonate's intestine of

meconium. It is an unfortunate waste not to use this universally available "natural medicine."

(5.) Q: What are the contra-indications to breastfeeding in Pakistan?

A: Biologically, there are none, unless the mother has died in childbirth or is severely mentally deranged. Maternal tuberculosis and leprosy indicate the need for their vigorous treatment, with care to protect the baby as much as possible by various means. Economically, it may be difficult for a mother in the work force, with employment away from home. In these circumstances, morning and night feeds may be possible, with expressed milk given by a relative with a cup and spoon. Other supportive practices are given in Question: .

(6.) Q: The impression is at times given that harmful practices only occur in some traditional customs. What about imported "Western" ideas? Aren't some of these harmful, too?

A: Correct. All cultures have customs and practices which are beneficial, harmful, uncertain or neutral as regards behavior affecting health and nutrition. Harmful Western imports include the following - the incorrect beliefs that breastfeeding ruins the figure, that feeds need to be scheduled "by the clock", that mothers and newborn should be separated and many other maternity ward practices. Some incorrect local customs can include non-use of colostrum (because it is "stale"), giving of ghutti, breast milk from a mother who has had deaths of previous infants, which is believed to be harmful, and foods other than milks should not be introduced until 8 months of age or later.

(7.) Q: The traditional practice of giving ghutti ("first taste of food") is widespread. What should the attitudes and advice of health professionals be?

A: All cultures have beneficial and harmful practices. The giving of ghutti has to be considered as potentially dangerous. Anything which goes down the baby's throat apart from mother's milk has a high risk of causing diarrhoea. However, the practice seems very deep-rooted, and, in the eyes of the family, acts as a socially meaningful exchange between the ghutti-giver and the neonate. Under these circumstances, it may be wise not to oppose strenuously, but try to persuade the family to use the smallest amount of the least harmful substance - honey, or proprietary

herbal ghutti mixed with mother's milk (as suggested by the manufacturers' instructions). As a main function of ghutti is as a laxative to clear out meconium, perhaps colostrum could be advised as a natural ghutti!

(8.) Q: Are you aware of other traditional practices that may be harmful?

A: One such practice is delayed breastfeeding because colostrum is thought to be "stale." The belief that breast milk is responsible for the deaths of infants in the same family is a tragic and mistaken belief. An example of a harmful local practice is the late introduction of foods other than milk, sometimes long after the recommended age of 4-6 months, sometimes not until the second year of life.

(9.) Q: In a hot country like Pakistan, it seems reasonable to give extra water to the newborn in the summer months. Do you agree?

A: Nature has supplied a source of clean water through mother's milk. Breastfeeding is a supply and demand system for both hunger and thirst. This also applies during the first days of life. The newly born baby arrives very well hydrated, so that the volume of fluid from the colostrum supplies the neonatal needs. The human has been called a "low solute, frequent sucking species", with milk containing 85% water. Also, the prolactin secreted by the baby's sucking has an anti-diuretic effect on the mother's kidneys, conserving water for milk production. However, the lactating mother needs to be able to drink to satisfy her thirst with water, milk, soups or other liquids. The lack of need for additional water for young breastfed infants (up to 4-5 months) has been proven in studies in the hot seasons in Jamaica, Peru, India and recently in Lahore, Pakistan.

(10.) Q: "Insufficient milk" is the commonest reason given by mothers for early weaning in both well-to-do and poorer sections of the community. What are the reasons for this?

A: Nearly all women can breastfeed. Often the fact (or otherwise) of "insufficient milk" is difficult to substantiate. Three main causes may be responsible, singly or combined. These are: interference with maternal milk reflexes ("dysreflexia") - that is, anxiety inhibiting the "let-down" (milk ejection) reflex or limited sucking and consequent inadequate milk secretion;

improper practical procedures ("management") with breastfeeding; maternal ill-health and/or severe malnutrition.

(11.) Q: In these cases, should the mother use breast milk substitutes?

A: Breast milk substitutes will further reduce the mother's milk supply. The mother should build up her own supply by breastfeeding more frequently. She and her family should look for ways of lightening her work load and improving her diet with locally available foods. Perhaps the baby's feeding position should be changed.

(12.) Q: Earlier you mentioned the "management" of breastfeeding. This sounds strange. Isn't breastfeeding an instinctive act?

A: Not so. All "higher mammals," especially humans, need to learn how to feed their newborn. In traditional circumstances in villages, this is done by observation by girls of their own mothers, female relatives in the extended family and other women in the community. In urban "nuclear" families, mothers have no such opportunities to learn and need to be taught the correct positioning and techniques. This means, of course, that pediatricians, obstetricians, nurses and midwives also have to be trained and knowledgeable in this field in both theory and practice. This is often not the case at the moment.

(13.) Q: What is the role of maternal nutrition in the failure or success in lactation?

A: Lactation failure can occur quite commonly in very well-nourished women, because of anxiety due to many causes (including fear of "insufficient milk") interfering with the milk-ejection reflex and/or to limited, insufficient sucking stimulation of the breast. However, in poorly nourished women, lactation is often surprisingly good, although frequently to their nutritional detriment. In such women, special attention needs to be given to trying to improve their diet, both in pregnancy and lactation, especially calories and iron, using practical means, such as advising eating 1/5 more than usual.

(14.) Q: Lactation is said to have a contraceptive effect; yet one often sees women who have become pregnant during lactation. What is the explanation?

A: The child spacing effect of breastfeeding is "dose dependent" - that is, related to the amount of sucking stimulation of the breast (especially the number of feeds), and the amount of prolactin secreted. The more the sucking, the more the prolactin production and the longer the lactation amenorrhoea. With less than maximum sucking, as with the "mixed milk" feeds commonly practiced in Pakistan, lactation amenorrhoea is shortened. Technical contraceptives (such as barrier methods and progestagen hormones) need to be used which add to the effect of breastfeeding without interfering with milk secretion.

(15.) Q: Can foods eaten by the mother affect the breastfeeding baby?

A: Yes, but very uncommonly. Usually there is some other explanation for a baby's colic or "gas" and mothers may be using this as a rationalization. If a definite cause and effect is established, it may be possible to eliminate the particular food.

(16.) Q: Has animal milk no place in the diet of children?

A: Not at all. Cow's milk, buffalo's milk and goat's milk are all excellent foods for older children and adults. The danger is if they are used instead of breastfeeding for young infants.

(17.) Q: Two major problems reported by mothers are cracked (or sore) nipples, and breast engorgement. Are these preventable?

A: Yes - with knowledge of breast anatomy and the psychophysiology of the dyadic mother-baby interaction. Both can be prevented by appropriate breastfeeding technique. The first can be avoided by ensuring that the nipple is in the baby's mouth together with some of the areola. Contrary to advice in some textbooks, the baby does not suck directly on the nipple. No ointment or lanoline is needed, as natural lubricant is produced by Montgomery's glands on the areola. Breast engorgement is prevented in most cases by early, frequent feeds and an unimpaired let-down reflex in a confident mother. When engorgement occurs, more frequent feeds, possibly with hand

expression of some milk is indicated.

(18.) Q: After "insufficient milk", one of the commonest causes for cessation of breastfeeding is "baby refused." Considering the ancient biological nature of breastfeeding, this seems bizarre. What is the explanation of this strange behavior?

A: There is not one reason, but several which can be present singly or together. If the baby has been bottle-fed, the quite different mouth movements from breastfeeding can lead to "nipple confusion," together with a preference for the easier flow of milk from the bottle. Also, incorrect positioning and an anxious, uncomfortable mother can make the infant "refuse" an unsatisfactory, less than pleasant experience, especially as milk is difficult to obtain from an engorged, swollen breast.

(19.) Q: Bottle-feeding is obviously dangerous for poor families with contaminated water and very limited parental education. Are there real measurable benefits from breastfeeding for the well-to-do?

A: Definitely. Among the educated elite, breastfeeding diminished episodes of illness, rather than mortality from intestinal and respiratory infections, almost eliminates cows' milk protein allergy in early infancy, and helps foster mother-child bonding. Breastfeeding also plays a partial role in such multifactorial illnesses or problems as necrotizing enterocolitis and "cot death" (SIDS), and possibly dental malocclusion, diabetes and atheroma in later life.

(20.) Q: Modern studies indicate that breastfeeding should be continued in infants with diarrhoea. What are these new facts?

A: In preventing and treating dehydration, breast milk is not only an additional supply of water and nutrition. It also contains substances that actively assist in absorption (glucose from the digestion of lactose, alanine, etc.), and a wide range of anti-infective substances and cells. Newer research also shows a much greater digestion and absorption of food in diarrhoea than previously recognized. This means that breastfeeding in diarrhoea is part of the "early feeding" so important in preventing malnutrition and starvation damage to the intestinal epithelium and secretory cells. Lastly, breastfeeding during diarrhoea episodes ensures its continuity after recovery.

(21.) Q: What are the economic considerations with regard to breastfeeding?

A: On a family basis, formula feeding of a 3-month-old will cost about 40% or more of the monthly earnings of <Rs. 800 found in 47% of Pakistani families. Obviously, an impossibility. Nationally, women in the country have the potential of producing more than 712 million litres of milk annually. The cost of replacement by cow's or buffalo's milk would be more than 60 crore rupees, or 180 crores if formula were used. The decline in exclusive breastfeeding in Pakistan is reflected by the increase in national imports of "Baby Milk" from an expenditure of 75 million rupees in 1982-83 to 164 million rupees in 1985-86 (Federal Bureau of Statistics, Government of Pakistan). This more than doubling of expenditure not only indicates increased bottle-feeding, but also may be considered an inefficient use of foreign currency. The cost of treating children with infantile malnutrition and diarrhoea also needs consideration.

(22.) Q: The pacifier or comforter seems a harmless way to quiet a fractions, "fussy" baby. Is this so?

A: Not at all. The pacifier has three main problems. It frequently falls on the dirty floor and carries an additional load of bacteria into the infant's mouth. It deviates "sucking vigour" from the mother's breast, with decreased prolactin production and milk secretion. Also, a pacifier can cause "nipple confusion" because breastfeeding has a different "mouth feel" and oral movements.

(23.) Q: What is the obstetrician's role in supporting breastfeeding?

A: Firstly, a realization that breastfeeding is advantageous for the mother's survival - as a result of child spacing, placental expulsion, decreasing blood loss during labour and diminished iron loss during lactation amenorrhoea. Prenatally, the obstetrician should include information and motivation regarding the value of breastfeeding, attention to the mother's health and nutrition, and necessary nipple examination and care (especially inverted nipples). During labour, minimal anaesthesia should be employed and episiotomies only undertaken when clearly needed. After delivery, breastfeeding should be commenced at once or as soon as possible, including mothers with Caesarean deliveries. Coordination and up-to-date knowledge

between the obstetrician, midwife, nurse and pediatrician should be the goal.

(24.) Q: What are the main elements of a breastfeeding program?

A: Dissemination of information and motivation. Training of health workers at all levels in theory and practice. Modification of health service practices. Support for breastfeeding women in the work force. Regulation of the aggressive advertising and promotional practices of companies manufacturing or importing formula, bottle-feeding accessories and other infant foods, which can "displace" breast milk (i.e., so-called follow-on formulas, weaning foods directed at young infants).

(25.) Q: What are the main channels for the dissemination of information and motivation?

A: Mass media - radio, newspapers, TV - using "social marketing" appeals (prestige, glamour, modernness), alleviating anxiety, as well as health messages, funded by government or non-food-industry-related sources, together with banning advertisements for formulas, feeding bottles and nipples. General school curricula - in science, health courses, especially teacher training institutions. Through religious channels in relation to Koranic injunctions; through breastfeeding mothers support groups (if feasible among the urban educated); and through activities of NGO's and voluntary agencies, including existing mothers' clubs (i.e. APWA, etc.).

(26.) Q: Can legislation help in breastfeeding programs?

A: Yes, if laws can be enforced. Legislation for breastfeeding includes:

Restriction and monitoring of unethical practices of the infant food industry: acceptance and adherence to the WHO/UNICEF Code of Marketing of Breast Milk Substitutes by the government and health workers, including so-called "follow-on milks". These are, in fact, also intended for use in early infancy and so are breast milk substitutes. Consideration should be given to the development of an import policy restricted to a few selected brands of formula which are economical,

nutritious and non-advertised.

Assistance for breastfeeding women in the work force,
notably a flexible "split" maternity leave for not more
than three children, and development of creches at
places of work (including factories, hospitals,
universities), with a minimum of two half-hour "nursing
pauses" daily.

(27.) Q: How can modern education on breastfeeding and lactation be introduced into already over-crowded curricula for medical, nursing, midwifery and Lady Health Visitor students?

A: Curricular changes need to be made a priority, together with greater emphasis on nutrition instruction in general and the mother and young child in particular. This can be time-consuming and difficult. In addition, teaching/learning materials are needed for all levels which are appropriate educationally and up-to-date as regards newer knowledge of the psychophysiology and management. Sequences of seminars are needed, especially for future trainers of field workers.

(28.) Q: What are the commonest modifications needed in maternity units to make breastfeeding easier to initiate?

A: These are really obvious if breastfeeding is considered as a natural phenomenon and with present-day knowledge of the psychophysiology and management techniques. The newborn should be put to the breast at delivery or as soon as possible after this. No pre-lacteal feeds, including glucose water, are needed. "Rooming in" is probably the most important and effective change. However, to achieve these modifications, there is a need to convince hospital administrators, obstetricians, pediatricians, nurses and midwives of the economic benefit, convenience, better use of staff time and improved neonatal health.

(29.) Q: What is meant by a "Lactation Clinic"?

A: A clinic set up in key institutions, comprising a pediatrician/obstetrician - nurse/midwife tutor team. These will become the focal point for referral of normal and problem breastfeeding couples, and can have a multiplier effect as medical and nursing students, residents and others spend time in practical work. They modify training without specific curricular change.

(30.) Q: What are the most important components of a successful breastfeeding program?

A: A widespread network of health professionals (at all levels), administrators and members of the public who know the advantages of breastfeeding, understand what makes for success or failure, and actively support such a program. This has to be based on a positive government policy, coordinated by national and provincial committees.