BREASTFEEDING IN SENEGAL

Assessment of Practices and Promotion

by

SANAS

Wellstart International

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# LIST OF ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVAMS</td>
<td>Association Volontaire d’Allaitement Maternel au Sénégal</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
</tr>
<tr>
<td>EPB</td>
<td>Expanded Promotion of Breastfeeding</td>
</tr>
<tr>
<td>EDS</td>
<td>Enquête Démographique et de Santé</td>
</tr>
<tr>
<td>IBFAN</td>
<td>International Baby Food Action Network</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, Education and Communication</td>
</tr>
<tr>
<td>KAP</td>
<td>Knowledge, Attitudes and Practices (Study)</td>
</tr>
<tr>
<td>LAM</td>
<td>Lactation Amenorrhea Method</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>ORANA</td>
<td>Office de Recherches sur l'Alimentation et la Nutrition Africaine (Office of Food and African Nutrition Research)</td>
</tr>
<tr>
<td>PMI</td>
<td>Protection Maternelle et Infantile</td>
</tr>
<tr>
<td>PPA</td>
<td>Postpartum Amenorrhea</td>
</tr>
<tr>
<td>PRITECH</td>
<td>Technology for Primary Health Care Project</td>
</tr>
<tr>
<td>SANAS</td>
<td>Service de l'Alimentation et de la Nutrition Appliquée au Sénégal (The Food and Applied Nutrition Service of Senegal)</td>
</tr>
<tr>
<td>SD</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>SCS/FP</td>
<td>Senegal Child Survival/ Family Planning Project</td>
</tr>
<tr>
<td>TBA</td>
<td>Traditional Birth Attendant</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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EXECUTIVE SUMMARY

In September and October 1994, Wellstart staff joined with the Applied Nutrition and Social Action Service (SANAS) staff to conduct a rapid assessment of the status of breastfeeding in Senegal. The assessment identifies supportive factors and obstacles to reaching optimal breastfeeding practices, and points to areas requiring immediate action.

BACKGROUND

Senegal has a population of eight million people of which 60% reside in rural areas. Malnutrition rates are high in Senegal, with marked increases beginning at ages 6-11 months old. Children that are 12-23 months of age have the highest prevalence of both weight-for-age deficit and wasting, while stunting increases with age. Diarrhea rates are high among infants with about one out of four infants 0-6 months having had diarrhea in the two weeks prior to being surveyed (EDS-I, 1988 and EDS-II, 1994). While child mortality and morbidity rates have improved during recent years, there was an alarming rise in the percent of malnourished children under two years old between 1986-1992/93.

INFANT FEEDING PRACTICES

Breastfeeding is an integral part of Senegalese culture despite increasing urbanization and mounting Western influences. Virtually all (98%) infants are breastfed for some time and median duration of breastfeeding has increased from 18.8 months in 1986 to 20.1 months in 1992/93 (EDS-I, 1988 and EDS-II, 1994). At one year of age, 97% of infants are still breastfeeding and by two years, 39% are still breastfed.

However, a number of sub-optimal breastfeeding practices prevail that jeopardize infant and maternal health and nutritional status.

- **Exclusive breastfeeding** of young infants is rare. Less than 7% of infants consume only breastmilk during the first four months of life and even fewer (5%) in the 0-6 months range recommended by WHO.

- **Water use** is common in young infants. In addition to breastmilk, nearly 70% of 0-4 month olds are inappropriately given water.

- **Early introduction of other liquids and foods** is a problem. 24% of infants 0-4 months are given liquids (other than water) or other foods.

- **Initiation of breastfeeding is typically delayed** 24 to 48 hours. Less than 12% of Senegalese newborns are breastfed during the first hour of life. Neither health workers nor mothers understand the nutritional and immunological importance of colostrum.

- **Late introduction of complementary foods** is common. Nearly one third of infants 6-9 months do not receive complementary solid or semi-solid foods.
Mothers continue, but do not increase, breastfeeding frequency during diarrheal episodes. The high incidence of diarrhea in infants 0-6 months is consistent with the fact that exclusive breastfeeding is rare.

Perceptions of insufficient milk are common among women and health workers alike. Few health workers are familiar with the stimulating effect of frequent suckling on breastmilk production.

Knowledge and Attitudes on Infant Feeding

The attitude of the mother towards breastfeeding her child is basically positive, but in many parts of the country it is accompanied by a belief that the mother is not able to produce sufficient milk. Breastmilk is seen as a food and not a liquid. Advice from health personnel plays an important role in maternal decision-making concerning the feeding of her child. This advice frequently reinforces inappropriate practices.

Policy and Legal Environment

Until two years ago, the general perception among both the population and most health professionals was that Senegal had no "breastfeeding problem." Since that time, a number of steps have been taken toward the promotion of improved breastfeeding practices in Senegal. A National Code of Marketing for Breastmilk Substitutes was adopted in July 1994. A National Breastfeeding Policy was signed in August 1994 and a National Breastfeeding Committee was formed. Several members of the Breastfeeding Committee have received technical training in breastfeeding from Wellstart and UNICEF. Revision of labor laws relative to the extension of maternity leave from 8 to 16 weeks is currently underway.

Health Services/Training

Both public and private health services are available throughout Senegal, with large differences between urban and rural areas. Forty-seven percent of deliveries occur in formal health facilities. Twenty-eight percent of all babies are delivered by traditional birth attendants (TBA).

The training of health professionals is a major component of Senegal's breastfeeding program. UNICEF's 18-hour training module was adapted for the Senegalese context and used for initial training in late 1994.

Information, Education and Communication

A KAP study done in 1991 (PRITECH/SANAS) in Dakar and its suburbs looked at breastfeeding knowledge and practices of both health workers and mothers and pointed out similarities and differences between the two groups. Outside of this single KAP study from a limited area of the country, there is little documentation of specific behaviors and motivation relative to breastfeeding. Current IEC materials for nutrition and breastfeeding are either too vague or too complicated for their audiences. Breastfeeding materials need to go beyond the general promotion of breastfeeding as a positive behavior (which mothers and health workers already believe) to promotion of specific optimal behaviors and eradication of negative ones. IEC materials are needed for at least two different target audiences: health care providers and mothers.
RECOMMENDATIONS

Priority actions include, among others:

Mothers' Practices

- Educating Senegalese women on what constitutes optimal breastfeeding practices (especially exclusive breastfeeding for around 6 months) and providing specific information on how to improve what they are already doing.

- Education of mothers and other influential family members on why it is important for pregnant and lactating women to eat more than usual and how to accomplish this. This education has to take into account women's concerns about avoiding difficult deliveries and death during childbirth.

- Imparting basic understanding of lactation mechanisms directly to mothers in order to enable them to solve common lactation-related problems, such as perceptions of insufficient milk, on their own.

Political, Legal and Financial Environment

- Stressing economic, health and fertility advantages and linkages of exclusive breastfeeding in the first 6 months with child morbidity (especially diarrhea and respiratory infections) and mortality.

- Improving the breastfeeding policy to emphasize the child spacing advantages of breastfeeding; focusing on exclusive breastfeeding; stressing that water is unnecessary and extremely harmful to infants under 6 months; moving the policy toward international recommendations of exclusivity for about 6 months rather than 4 months.

- Monitoring the economic and financial savings which will accrue both at the macroeconomic and at the household levels as the result of widespread adoption of optimal breastfeeding.

The Health Infrastructure

- Convincing all health professionals of the benefits of promoting exclusive breastfeeding and other optimal breastfeeding practices.

- Imparting basic understanding of lactation mechanisms to health workers, so that they can help mothers solve lactation-related problems. Particular emphasis should be put on how to assist women who complain of insufficient milk to increase their own milk production by increasing suckling frequency.

- Integrating breastfeeding into regular service delivery at multiple points. This includes: monitoring the nutritional status of pregnant women, beginning breastfeeding education at prenatal visits, instituting routine postpartum visits, incorporating LAM into family planning service delivery, amending treatment algorithms for diarrhea to take into account infant age (< 6 months, > 6 months) and breastfeeding status, etc.
Information, Education and Communication

- Undertaking qualitative research on certain subgroups of women (i.e. rural/urban, working/non-working, schooled/unschooled, etc.) and tailoring IEC messages and materials accordingly.

- Identifying influential people (i.e. religious and traditional leaders, grand-mothers, etc.) in the maternal environment that can enhance mothers' willingness and ability to improve breastfeeding practices. Make sure that these people are specifically targeted in IEC activities.

- Developing materials targeting mothers and health providers for use at the community level.
BREASTFEEDING IN SENEGAL
Assessment of Practices and Promotion

I. INTRODUCTION

In the 1990 Innocenti Declaration, the international health community recognized breastfeeding's critical role in the health of mothers and children and called for support of a global initiative to improve breastfeeding practices. Taking up this call, the U.S. Agency for International Development (USAID) issued its Strategy for Breastfeeding. Activities included in the strategy are: the completion of country-level assessments to document the current situation and serve as the basis for planning and monitoring; the development of national infant feeding strategies and action plans; and the implementation and evaluation of national programs.

Purpose and Methodology

In September and October 1994, Wellstart staff joined with Food and Applied Nutrition Service (SANAS) staff to conduct a rapid assessment of the status of breastfeeding in Senegal. The assessment identifies supportive factors and obstacles to reaching optimal breastfeeding, and points to areas requiring immediate action.

Using the Guide for a Country Assessment of Breastfeeding Practices and Promotion, (Griffiths and Anderson, 1993), the assessment team carried out the following activities:

- a literature review;
- interviews with representatives from the Ministry of Health (MOH), USAID-funded child survival and family planning projects, multilateral organizations (UNICEF, WHO), research institutions (University of Dakar, ORANA), grass roots organizations (AVAMS), and in-country Wellstart Associates; and
- site visits to facilities around Dakar and in Fatick.

The methodology gives a relatively quick means to assess infant feeding practices and the status of programs and policies that affect infant feeding. The results described here can be used to fine tune interventions already planned and can serve as a baseline for assessing improvements in breastfeeding practices in Senegal.

II. COUNTRY BACKGROUND

Sixty percent of Senegal's eight million people reside in rural areas. Like other Sahelian countries, Senegal faces a number of economic, demographic, and social challenges. Most Senegalese derive their livelihood from agriculture, which forms the basis of Senegal's economy. A short rainy season (3-4 months), combined with persistent droughts in recent years, has played a major role in Senegal's current economic crisis.
**Senegal's Health-Related Statistics**

<table>
<thead>
<tr>
<th>Total population</th>
<th>7,808,458</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent urban</td>
<td>40%</td>
</tr>
<tr>
<td>Total fertility rate</td>
<td>6.0 children</td>
</tr>
<tr>
<td>Percent of women in union using contraception</td>
<td>12%</td>
</tr>
<tr>
<td>Female literacy</td>
<td>26%</td>
</tr>
<tr>
<td>Per capita GNP</td>
<td>$720¹</td>
</tr>
<tr>
<td>Women receiving prenatal care</td>
<td>79%</td>
</tr>
<tr>
<td>Deliveries in formal health facilities</td>
<td>47%</td>
</tr>
<tr>
<td>Deliveries by trained attendant</td>
<td>47%</td>
</tr>
<tr>
<td>Infant mortality rate (per 1000 live births)</td>
<td>68</td>
</tr>
<tr>
<td>Under 5 mortality rate (per 1000 live births)</td>
<td>131</td>
</tr>
<tr>
<td>Maternal mortality rate (per 100,000 live births)</td>
<td>500-550 (1979 to 1992)</td>
</tr>
</tbody>
</table>

**Prevalence of undernutrition (DHS 1992/93)**
(Percent less than -2 SD)

<table>
<thead>
<tr>
<th>Age</th>
<th>Wt/Age (undernourished)</th>
<th>Ht/Age (stunted)</th>
<th>Wt/Ht (wasted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 mos</td>
<td>1.1</td>
<td>3.2</td>
<td>3.4</td>
</tr>
<tr>
<td>6-11 mos</td>
<td>12.8</td>
<td>10.9</td>
<td>12.3</td>
</tr>
<tr>
<td>12-23 mos</td>
<td>27.2</td>
<td>23.4</td>
<td>15.8</td>
</tr>
<tr>
<td>24-36 mos</td>
<td>26.2</td>
<td>28.8</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**Sources:** EDS II, 1994 (except where noted)
¹(The World Bank, 1991)

Real incomes have been steadily decreasing throughout Senegal, with the standard of living distinctly lower in the rural areas (Gouvernement du Sénégal & UNICEF, 1993). As poverty intensifies an increasing number of women and men are migrating to the cities, resulting in accelerated urbanization (5% a year). Population density in Dakar is currently 2700 people/km², compared to 6 people/km² in Tambacounda (EDS-II, 1994).

Unemployment rates in the cities are as high as 23% to 27%, and affect more women than men (Gouvernement du Sénégal & UNICEF, 1993). Senegal has a young population: 47% is less than 15 years old and 60% of the women are less than 30 years old. Almost half of all married Senegalese women are in polygamous unions. Education levels are generally low in Senegal, particularly for women. Nearly 70% of the population is illiterate. Nine out of ten women in rural areas have never attended school. Only 35% of urban women have completed primary school, and less than 6% of Senegalese women have a secondary education or more (EDS-II, 1994). With so few women formally educated,
female participation in the formal labor force is minimal. Less than 16% of working women have formal jobs (Gouvernement du Sénégal & UNICEF, 1993).

Many breastfeeding practices in Senegal are influenced by traditional and religious beliefs. In Senegal, motherhood is celebrated, and traditions such as breastfeeding are deeply rooted. Over 90% of the population is muslim. Religious and traditional leaders have a strong influence even among urban dwellers. There are five main ethnic groups: Wolof (43%), Poular (23%), Serer (15%), Mandingue and Diola (10%) (EDS-II, 1994).

Eight out of 10 urban households have a radio, and one out of three a television. Among rural households, 64% have a radio and only about 3% have a television. Less than half of all Senegalese households have access to running water.

**Child Morbidity and Mortality**

Infant mortality in Senegal has dropped 24% since the period 1978-1982 to 68 per 1000 live births. It should be noted that for the first time in the history of Senegal and its neighboring countries, child (one to five years-old) mortality, after a drop of 43% since the period 1978-1982, is equal and not greater than infant mortality. Clearly, this testifies to the effectiveness of the various maternal and child health programs which have operated in Senegal during the past 10-15 years.

Birth intervals of less than two years are the single greatest risk factor for mortality of Senegalese children under one year of age (112 per 1000 live births). Infant mortality is nearly twice as high with birth intervals of less than two years than with birth intervals between two and three years. Other maternal characteristics associated with high infant mortality include illiteracy (81 per 1000 live births), residing in the North-East (108 per 1000 live births) and the South (98 per 1000 live births) or living in a rural area (87 per 1000 live births) (EDS-II, 1994).

The data on causes of mortality among children under five are few, scattered and not always consistent (Gouvernement du Sénégal & UNICEF, 1993). However, it is clear that the leading causes of death for Senegalese children under five are malaria, diarrhea and respiratory infections. The percentage of child deaths attributed to diarrhea has been estimated in recent years to be between 25% and 50%, respiratory infections between 14% and 23%, and malaria between 9% and 45% (Gouvernement du Sénégal & UNICEF, 1993).

Although the incidence of diarrhea among infants younger than six months has been cut by approximately half since 1986, nearly one out of four (23%) of these infants had suffered from diarrhea within the two weeks preceding the DHS survey (EDS-I, 1988 and EDS-II, 1994). A recent study conducted in four regions in Senegal showed that 29% of all diarrhea cases occurred in children under one year of age (S. Manoncourt, BASICS project). The high incidence of diarrhea in the 0-6 months age group is consistent with the fact that exclusive breastfeeding is rarely practiced in Senegal. Infants exclusively breastfed have a lower incidence of illness and death than those given supplements. Fortunately, most Senegalese mothers do continue to breastfeed when their baby is sick (PRITECH/SANAS, 1991).

Exclusive breastfeeding decreases both the incidence and the severity of diarrhea and respiratory infections in infants less than six months of age. This has been documented in numerous studies:
in Peru, infants under 5 months of age receiving liquids such as water or tea in addition to breastmilk were twice as likely to get diarrhea as those being exclusively breastfed (Feacheam and Koblinsky, 1984);

in Brazil, 0-2 month old infants non-exclusively breastfed were 25 times as likely to die from diarrhea than those being exclusively breastfed (Feacheam and Koblinsky, 1984). Another study in Brazil indicated that infants under 6 months of age who are not breastfed are 3 to 6 times more likely to get respiratory infections as are infants of the same age who are breastfed (Victoria et al., 1987); and

in Benin, a study comparing the incidence and severity of diarrhea among children 0-30 months old found that the incidence of diarrhea started before the fourth month of life in urban areas. This is attributed to the premature introduction of bottle feeding in urban areas. In rural areas, where exclusive breastfeeding is widely practiced, no incidence of diarrhea was reported among infants less than four months of age (Makoutode, 1978 cited in ORANA/PRITECH, 1990).

**Infant and Child Mortality Rates in Senegal by Five-Year Periods**

<table>
<thead>
<tr>
<th>Period</th>
<th>Deaths per 1000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978-82</td>
<td>90</td>
</tr>
<tr>
<td>1983-87</td>
<td>110</td>
</tr>
<tr>
<td>1988-92</td>
<td>193</td>
</tr>
</tbody>
</table>

**Source:** DHS-II, 1994

**Figure 1**
Infant and Child Mortality by Inter-birth Interval, 1992/93

Deaths per 1000 live births

<table>
<thead>
<tr>
<th>Inter-birth Interval</th>
<th>0-1 year</th>
<th>2-3 years</th>
<th>4 years or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant</td>
<td>112</td>
<td>64</td>
<td>42</td>
</tr>
<tr>
<td>Child</td>
<td>90</td>
<td>93</td>
<td>63</td>
</tr>
<tr>
<td>Under 5</td>
<td>181</td>
<td>151</td>
<td>103</td>
</tr>
</tbody>
</table>

Source: DHS-II, 1994

Figure 2

At about six months of age, at the time of introduction of complementary foods (and hence even greater risk of exposure to contaminants), it is important to continue breastfeeding because it will continue to protect the infant against infections while supplying him with much needed nutrients. Breastmilk continues to provide between one half and one third of energy requirements well into the second year of life. Studies show that the incidence of diarrhea is lower among infants 6-12 months still receiving breast milk than among those completely weaned in the same age group (Victoria et al., 1987).

Although malaria is suspected to be a major killer of children under 5 (Gouvernement du Sénégal & UNICEF, 1993), its prevalence is low among children under one year of age (2-11%). Malaria prevalence increases with age, reaching 65% for children 2 to 4 years old (EDS-I, 1988).

Failure to follow through with immunization schedules is common, especially in rural areas. Only half of all Senegalese children in the 12-23 months age group have been immunized against all six antigens, yet two-thirds of them do possess an immunization card (EDS-II, 1994).

Child Nutritional Status

While child mortality and morbidity significantly decreased between 1986 and 1992/93, during the same period there was an alarming rise in the number of malnourished children under two years old, in particular among the 6-11 months olds (EDS-I, 1988 and EDS-II, 1994).

This surge of malnutrition among the 6-11 month olds is likely to have begun during the first 6 months with exposure to pathogens from non-exclusive breastfeeding. It is then exacerbated during 6-11 months
due to inadequate weaning practices, such as delaying the introduction of complementary foods beyond 6 months or providing foods which are not of sufficient caloric density. Only 59% of Senegalese infants 6-9 months old receive solid foods in addition to breastmilk (EDS-II, 1994).

The 1992/93 Demographic and Health Survey reports that one out of five Senegalese children under five years of age suffers from chronic malnutrition. Mandingue and Poular children, in particular, are the most likely to be malnourished (EDS-II, 1994).

Child malnutrition increases at 6 months of age, and culminates in the 12-23 month age range. Children who are 12-23 months of age have the highest prevalence of both weight-for-age deficit and wasting, while stunting increases with age. One out of 5 Senegalese children is stunted. Stunting is heavily influenced by maternal education level, and area of residence. Children under five who are stunted are twice as likely to be from rural areas (27%) or with unschooled mothers (25%) as from urban areas or mothers with a primary education (EDS-II, 1994).

### Child Malnutrition in Senegal,
**Percent of Children Less Than -2 SD**
**6-11 months**

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>1992/93</th>
</tr>
</thead>
<tbody>
<tr>
<td>WT/AGE</td>
<td>4.8</td>
<td>12.8</td>
</tr>
<tr>
<td>HT/AGE</td>
<td>8.5</td>
<td>12.3</td>
</tr>
<tr>
<td>WT/HT</td>
<td>10.9</td>
<td>2</td>
</tr>
</tbody>
</table>

*Source: DHS-I, 1988 and DHS-II, 1994*

**Figure 3**

### Maternal Mortality and Nutrition

Compared to other African countries, maternal mortality is high in Senegal, ranging from 500 to 550 per 100,000 live births for the period 1979-1992 (EDS-II, 1994). Maternal mortality is the leading cause of death among Senegalese women of childbearing age (Gouvernement du Sénégal & UNICEF, 1993). Risk of maternal death is highest for women who are either adolescent, rural, not educated, Poular, or from the North-East (EDS-II, 1994). In 40% of the cases, maternal mortality results from postpartum
hemorrhage. Anemia is prevalent among Senegalese women of reproductive age and is most severe during pregnancy and the postpartum period (Gouvernement du Sénégal & UNICEF, 1993).

Little is known about maternal morbidity in Senegal as most studies center primarily on children. It is important to note that a number of maternal illnesses prompt many mothers to cease breastfeeding during the period of illness (PRITECH/SANAS, 1991).

Child Malnutrition in Senegal, Percent of Children Less Than - 2 SD, 12-23 months

Source: DHS-I, 1988 and DHS-II, 1994

Figure 4

Some facts about maternal mortality:

- more than a third of Senegalese women have given birth before their 17th birthday; 20% of all maternal deaths occur in the 10-14 year age range;

- 25% of illiterate mothers, 30% of Poular women, and 36% of women in the North-East do not receive any prenatal care; and

- in rural areas, 70% of all babies are delivered at home, and less than 30% of all rural births occur in the presence of a trained birth attendant.

Being among the tallest women in Africa (162.5 centimeters), Senegalese women are less vulnerable to height-related pregnancy complications. However, approximately one-fifth of the women are underweight (less than 50 kg) in Senegal. The prevalence of malnutrition among women is higher in the rural areas.
Seventeen percent of rural women, compared to 11% of urban women, have a Body Mass Index (BMI) of less than 18.5, which is indicative of chronic energy deficiency (EDS-II, 1994).

In addition to low pre-pregnancy weights, average monthly weight gain during pregnancy is often very low among rural women, possibly as low as 1.4 kg during the off-season and .4 kg during the agricultural season (Gouvernement du Sénégal & UNICEF, 1993). Minimal weight gain recommendations are for total weight gains of at least 1 kg per month in the last two trimesters of pregnancy, with optimal weight gains of between 12.5 - 18 kg for underweight women (BMI < 19.8) (Krasovec and Anderson, 1991, Institute of Medicine, 1990).

Deliberate attempts to limit weight gain during pregnancy are not unusual. This is done in the belief that excessive weight gain during pregnancy will cause a large baby, and thus a difficult delivery. In addition, many Senegalese women fail to adjust their energy expenditure during pregnancy and lactation, simply carrying on with their usual workload (Gouvernement du Sénégal & UNICEF, 1993).

With these low weight gains, it is not surprising that the incidence of low birth weight babies (less than 2.5 kg) is high among rural Senegalese women: 12% during the off season and 28% during the wet season (Gouvernement du Sénégal & UNICEF, 1993). Low birth weights reflect maternal nutritional status before as well as during pregnancy and malaria and other maternal infections during pregnancy. Low birth weight babies are more likely to die than normal weight babies.

The combination of low weight gains in pregnancy and low weights and BMIs for non-pregnant women would normally suggest that women’s stores are depleted over time and numerous pregnancies. Surprisingly, this does not seem to be the case for rural Senegalese women. According to an ORSTOM/ORANA study, the nutritional status of rural women in Senegal did not worsen with increasing age and parity.

**Fertility and Contraception**

Breastfeeding is the main form of birth spacing for most Senegalese women. Modern contraception is used by less than 5% of the women in Senegal (EDS-II, 1994).

Median duration of postpartum amenorrhea (PPA) is relatively long (14.3 months, with a mean of 15.1 months). PPA is twice as long for women with no formal education (15.3 months) compared to women who have a secondary education or higher (7.5 months) (EDS-II, 1994).

Due to the long duration of breastfeeding in Senegal, over three-quarters of postpartum women are amenorrheic after 9 months and half of them are still amenorrheic after 15 months. Postpartum abstinence is practiced by most women, but only for an average of 3.5 months (EDS-II, 1994).

If there were an absence of lactational amenorrhea or postpartum abstinence and no increase in contraception or age at marriage, the total fertility rate would be much higher. The fertility-inhibiting effects of the intermediate fertility variables are presented in the following figure. Without the effect of the fertility variables, the total fertility rate (TFR) would be 12.88, whereas the TFR in 1986 was actually 6.42.

The demand for family planning methods in Senegal is thought to be limited because of high infant mortality, socio-cultural factors and a general lack of knowledge about family planning methods. Parents
compensate for the high rates of infant and child mortality by having a large number of children (SCS/FP).

Marriage, fertility and childbearing are at the core of the Senegalese culture. Senegalese women marry at a young age; the median age at first marriage is 16.2 (EDS-II, 1994). Less than 8 out of 100 married women are using any type of contraception, and less than 5% of all married women are using modern methods. Even though Senegalese women tend to have many children, they are having approximately the number of children (6.0) that they desire (5.9). Sixty-eight percent of Senegalese women desire contraception solely for child spacing purposes (EDS-II, 1994).

Polygamy is a common practice, especially in rural areas. Almost half of all married women in Senegal are in polygamous unions (EDS-II, 1994). Women in polygamous unions may seek, through the number of children they have, to assure the stability of their marriage and household (SCS/FP).

The duration and the intensity of breastfeeding is declining in urban areas where many women have to work outside the home. As a result, PPA duration is much shorter in urban (11.8 months) than in rural (15.8 months) areas. Yet the use of modern contraceptives among urban women is significant only for those who are more educated (29% for women with a secondary education or higher) (EDS-II, 1994). This leaves urban women with little or no formal education more exposed to closely spaced pregnancies than more educated urban women or rural women. The widespread adoption of optimal breastfeeding practices will help limit fertility in two ways: by lengthening the period of postpartum infecundity and by decreasing childhood mortality due to diarrheal disease, other infections and malnutrition.

Figure 5

III. CURRENT BREASTFEEDING PRACTICES

Senegal's Positive Breastfeeding Situation

Breastfeeding is still an integral part of the Senegalese culture, despite increasing urbanization and mounting western influence:

- virtually all Senegalese infants (98%) are breastfed for some time (EDS-II, 1994);

- median duration of breastfeeding in Senegal has increased from 18.8 months in 1986 to 20.1 in 1992/93. However, breastfeeding duration is longer in rural areas (23.9 months) and among unschooled mothers (20.5 months) than in either urban areas (18.4 months)
or among mothers with a secondary education or more (13.2 months) (EDS-I, 1988; EDS-II, 1994); and

- the proportion of one year old and two year old Senegalese children still being breastfed has increased from 88% to 97%, and 28% to 39%, respectively, since 1986 (EDS-I, 1988; EDS-II, 1994).

**What are the WHO/UNICEF Recommendations for Breastfeeding?**

- Initiation of breastfeeding within one hour of birth
- Frequent, on-demand feeding (including night feeds)
- Exclusive breastfeeding—no water, liquids, or foods whatsoever—until the infant is about 6 months of age:
- Continuation of breastfeeding well into the second year
- Supplementation of breastmilk with appropriate weaning foods by the time the infant has reached 6 months of age

**Breastfeeding Practices Needing Improvement**

Even though most Senegalese infants benefit from breastfeeding, a number of sub-optimal practices prevail that jeopardize infant and maternal health and nutritional status:

*Exclusive breastfeeding is rare.* Both DHS-1986 and DHS-1992/93 indicate that less than 7% of infants in Senegal consume only breastmilk in their first four months of life. In the 0-6 months age range, even fewer (5%) Senegalese babies are exclusively breastfed (DHS-1992/93). In addition to breastmilk, nearly 70% of 0-4 months old infants are given water, and 24% are given other liquids and foods (EDS-II, 1994). Non-exclusive breastfeeding sharply increases an infant's risk of exposure to contaminants, as well as the probability and severity of diarrhea. In contrast, exclusive breastfeeding of infants under four months of age is common practice in other parts of Sub-Saharan Africa such as in Burundi (89%), in Rwanda (90%) and in Uganda (70%) (UNICEF, 1994).

*Initiation of breastfeeding is typically delayed 24 to 48 hours.* Both in rural (11%) and urban areas (12%), and across levels of maternal education (12% for both unschooled and secondary or higher-educated mothers), less than 12% of Senegalese new-born infants are breastfed during the first hour of life (EDS-II, 1994; PRITECH/SANAS, 1991). This is the result of both deeply-rooted beliefs and traditions and inadequate training of health personnel in lactational mechanisms and management. For example, most mothers will delay the first breastfeed until after the baby has ingested the customary holy water ("eau bénite"). The administration of holy water to a newborn before any other substance is a widely observed religious tradition in the Muslim Senegalese community (>90% of the population). Similarly, on the advice of health personnel, Senegalese mothers commonly give sugar water to the baby while waiting for their milk to "come in" (PRITECH/SANAS, 1991).
Mothers and health workers alike believe that breastfeeding cannot be initiated immediately following birth because mothers' breasts are devoid of milk and they have to wait a day or two for their milk to "come in". Although 83% of the health workers agree that initiation of breastfeeding should take place within the first 6 hours, they may not be fully convinced (and thus convincing), since only 19% of the mothers complied with this recommendation. Furthermore, health workers recommended the following to mothers waiting for their milk: sugar water (85%) and bottle fed formula (32%), while only 9% recommended giving the breast.

**Very few babies are fed all the available colostrum.** Related to the delaying of the first breastfeeding, the Knowledge, Attitudes and Practices (KAP) study conducted in Dakar and its suburbs in 1991 indicates that over 90% of Senegalese babies start receiving colostrum one to two days after birth, rather than immediately following birth (PRITECH/SANAS, 1991). Probably due to its color and consistency, colostrum is perceived as unhealthy (Dakar Infos, 1994). Forty-three percent of the mothers believed that it is harmful to the infant's health, and 16% of the health workers believed it should be discarded. Less than 4% of the health workers understood both the nutritional and immunologic properties of colostrum.

**Use of water.** Breast milk, despite its liquid consistency, is universally seen as a food only and not as a drink both by mothers (97%) and health workers (96%). Thus, in Senegal, water is routinely given to breastfeeding infants, regardless of age, in the belief that they are thirsty (PRITECH/SANAS, 1991).
Early introduction of other liquids and foods. Both mothers and health workers have a poor knowledge of adequate complementary foods and weaning foods, and the appropriate time for their introduction. Most mothers start introducing vegetables between 4-6 months. Fruit juices are usually introduced between 3-6 months, while fruit is given only after the 6th month. Furthermore, in 25% of the cases, and in over half of the cases respectively, fruit and fruit juices do not figure in complementary feeding. Most mothers (72%) will wait at least 6 months to introduce fish and meat, and over a year for the family meal.

Frequency of breastfeeds. Except for mothers who return to salaried work, breastfeeding usually occurs on demand. However, it should be noted that most health workers (between 60% and 80% surveyed in the KAP study favored breastfeeding on the basis of a schedule (PRITECH/SANAS, 1991).

Health workers have a considerable influence on maternal breastfeeding behavior. In most cases breastfeeding behavior of mothers appears to reflect knowledge, beliefs and attitudes of health workers. The three most striking examples of the influence health workers' beliefs have on mothers' infant feeding behavior include the use of sugar water while waiting for the milk to flow, the use of porridge and or cow's milk to stimulate lactation, and the systematic giving of water to breastfed infants under 6 months of age (PRITECH/SANAS, 1991).

Complementary solid or semi-solid foods are introduced too late for most children. To complement breast milk, only 30% of 6-7 month olds, slightly over half (56%) of the 8-9 month olds and less than three-fourths of 12-13 month olds Senegalese infants receive solid or semi-solid foods (EDS-II, 1994). This practice severely compromises the nutritional status of infants older than 6 months.

Failure to increase breastfeeding frequency during diarrhea. Most breastfed infants do not increase their consumption of breast milk during diarrheal episodes, thus running the risk of dehydration and malnutrition. 1992/93 DHS-II indicates that 13% of infants with diarrhea were breastfed less than usual (EDS-II, 1994).

Perceptions of insufficient milk. Lactation mechanisms are generally poorly understood by health workers and consequently by the mothers whom they advise. Almost all Senegalese mothers believe, and the majority of the health workers recommend, the consumption of porridge, raw groundnuts and/or cow's milk by lactating women as the best way to stimulate milk production. Only a minority (21%) of health workers are familiar with the stimulating effect of frequent suckling has on milk production. As a result, mothers may needlessly stop breastfeeding their infants or introduce supplements because they are convinced they cannot produce sufficient milk.

Maternal and infant illness. Most mothers (65%) and health workers believe that breastfeeding should be put on hold when the mother is seriously ill, such as with breast abscess, tuberculosis, malaria, cancer, or AIDS. Over 80% of the mothers and all health workers did not cite one infant illness which would warrant the withholding of breast milk.

Bottle feeding. Less than 7% of Senegalese babies under four months are bottle fed (EDS-II, 1994). However, the incidence of bottle feeding appears much higher in the cities. In the KAP study, 45% of the mothers surveyed had used bottle feeding at some time. The two main reasons cited for the use of bottle feeding were work outside the home and insufficient milk. Other
Most health workers:

- believe that colostrum is valuable, but do not really understand its specific nutritional and immunologic advantages for the newborn, especially right after birth;

- believe that breast milk does not flow right after birth, so mothers need to wait; advise them while waiting to give sugar water in the belief that the new-born needs to ingest something;

- wait at least 6 hours to put the baby to the breast; reasons given include "milk has not come in yet" and "mother needs to rest";

- favor rooming-in;

- do not know the physiology of lactation and thus do not understand that frequent suckling, day and night, constitutes the primary way to initiate and maintain a satisfactory level of milk production;

- advise supplementing with formula, using a bottle, for cases of insufficient milk production, the primary complaint of breastfeeding mothers; do not understand that bottle feeding further inhibits milk production;

- believe that maternal consumption of porridge and/or cow's milk is the best way to stimulate milk production;

- say they should routinely discuss breastfeeding with postpartum mothers especially primiparas;

- believe that bottle feeding is a more complicated method of infant feeding and may be hazardous to the infant's health. Thus, would advise breastfeeding as the first choice;

- in maternities would assist mothers who choose to bottlefeed while in PMIs;

- recommend formula bottle feeding primarily for mothers with a contagious disease (in particular tuberculosis), mothers who complain of insufficient milk production and mothers who work outside the home;

- do not realize that working mothers could express their milk and store it safely for later administration to the infant with a cup and spoon;
reasons included maternal illness and a new pregnancy. In addition, mothers tended to associate bottle feeding more with formula (35%) than with porridge (18%).

**Maternal diet.** Women have poor knowledge of nutritional requirements during pregnancy and lactation. They tend to maintain the same level of energy intake and the same pattern of energy expenditure during these times. Worse, some intentionally limit their weight gain during pregnancy in the belief that weight gain may cause a large infant, who would be more difficult to deliver (Gouvernement du Sénégal & UNICEF, 1993; SCS/FP).

**Exclusive breastfeeding consists of:**

- breastfeeding the infant in the hour following birth;
- feeding all the available colostrum;
- breastfeeding the infant frequently, on demand, day and night; and
- giving nothing (this means no other solids or liquids, not even water) except mother's milk during the first 6 months of life.
KNOWLEDGE, ATTITUDES AND PRACTICES OF HEALTH WORKERS

Most health workers: (cont.)

- do not realize linkages between water supplementation and increased risks of diarrhea and malnutrition;

- consider breast milk to be a food only and not a drink as well; so believe that the exclusively breastfed infants need water in addition to breast milk;

- believe that breast milk alone cannot nourish an infant older than three months; so believe that porridge should be introduced between the third and fourth month;

- give methergine systematically at all deliveries.

Source: KAP Study for Dakar and its suburbs, PRITECH/SANAS, 1991
KNOWLEDGE, ATTITUDES AND PRACTICES OF SENEGALESE MOTHERS

Most Senegalese mothers:

- do not believe that colostrum will harm the infant. However, there is still a 43% minority who think that colostrum, seen as an impure substance (due to its unfamiliar texture and color), is indeed detrimental to the infant's health;

- do not really understand the specific nutritional and immunologic advantages of colostrum for the newborn; so do not realize that colostrum is the best source of nourishment for the newborn, especially while "waiting for the milk to come in";

- believe that breast milk does not flow right after birth and that they need to wait for it to start flowing; so most mothers wait at least 24 hours to start breastfeeding;

- give holy water ("eau bénite") to a newborn before any other substance as per religious tradition;

- give sugar water to newborns (usually on the recommendation of health workers), while "waiting for the milk to come in", based on the belief that the newborn needs to ingest something;

- do not know that frequent suckling day and night constitutes the primary way to initiate and maintain a satisfactory level of milk production;

- believe that maternal consumption of porridge and/or cow's milk is the best way to stimulate lactation;

- believe that there are special circumstances which force mothers to bottle feed including insufficient milk production, maternal employment outside the home, and, to a lesser extent, a new pregnancy;

- believe that a mother with certain disease conditions should not breastfeed; the two conditions most often listed include breast abscess, first, and tuberculosis, second;

- believe that a sick infant should continue to receive the breast, regardless of the illness;

- give both breasts at each nursing session;
Most Senegalese mothers: (cont.)

- who do not work outside the home use bottle feeding primarily because they believe they cannot produce enough milk (they do not realize that bottle feeding further inhibits milk production);

- who are employed outside the home use bottle feeding primarily because of the long absence during the day. Working women do not realize that they could express their own milk and store it safely for later administration to the infant with a cup and spoon;

- tend to associate feeding grain porridge with a cup and a spoon, while formula is associated with bottle feeding;

- believe that breast milk alone can nourish an infant up to 6 months, yet start complementing with porridge soon after the third month;

- wait until after the sixth month to introduce fruit;

- wait one year to put infants on the same diet as rest of the household;

- consider breast milk to be a food only and not a drink so believe that the exclusively breastfed infant needs water in addition to breast milk;

- do not realize linkages between water supplementation and increased risks of diarrhea;

- receive 3-4 prenatal visits;

- have to visit three different facilities for their prenatal examinations, for giving birth and for the baby's initial visit to the doctor;

- do not recall having been advised by health workers on any infant feeding methods at any time

Sources: KAP Study for Dakar and its suburbs, PRITECH/SANAS, 1991
Supportive Factors for Breastfeeding

- Supportive socio-cultural environment.
- Recent political commitment, including issuance of a national breastfeeding policy and the constitution of a national breastfeeding committee.
- Supportive legal environment: national code of marketing for breast milk substitutes, labor laws for breastfeeding working women.
- 24 hour rooming-in and breastfeeding on demand are common for a normal delivery.
- Less expensive to breastfeed than to bottle feed and give formula.
- Financial and technical support of donor community.
- High potential for mass media education.
- Teaching institutions are willing to update curricula.
- Locally available expertise in IEC material development.
- Commitment and dynamism of AVAMS.
- Integration of breastfeeding promotion in other child survival and family planning health programs.
- Presence of Wellstart Associates.

Constraints to Breastfeeding

- Lingering perception that Senegal does not have a breastfeeding problem. Lack of understanding that the problem is exclusive breastfeeding and not breastfeeding.
- Inadequate knowledge and training in lactation management of health care providers, including TBAs.
- Resilience of traditions such as the administering of holy water right after birth and the giving of water to infants in addition to breast milk.
- Poor maternal nutritional status.
- Lack of breastfeeding support systems in both the informal and formal sectors.
- Influence of formula companies or companies who market products such as bottled water for infants.
- Maternal employment away from home.
- Absence of baby-friendly hospitals.
- Poor access of rural women to health system.
- Low levels of maternal education and literacy.
IV. BREASTFEEDING PROMOTION AND SUPPORT

The Political, Legal and Financial Context

Until two years ago, the general perception among both the population and most health professionals was that Senegal had no "breastfeeding problem." Since that time, through the jurisdiction and national coordination of SANAS, under the umbrella of the national program for nutrition, and with financial and technical support from USAID, Wellstart and UNICEF, a number of activities have been completed and steps have been taken toward the promotion of improved breastfeeding and weaning practices in Senegal. Some of these activities include:

- the adoption of a national Code of Marketing for Breastmilk Substitutes in July 1994;
- the completion of a national breastfeeding policy, drafted in May 1994 and signed in August 1994;
- the creation of a National Breastfeeding Committee;
- technical training of several members of the Breastfeeding Committee;
- development of a Senegalese version of the UNICEF 18 hour Baby Friendly training course;
- the observance of World Breastfeeding Week for the first time in 1994;
- initial steps toward developing an action plan with short-, medium- and long-term goals;
- IEC activities; and
- training of 7 Wellstart Associates: one based in Fatick, one based in Ziguinchor and five based in Dakar.

Activities currently emphasized in the Senegalese breastfeeding program include:

- the promotion of optimal breastfeeding practices, with special emphasis on exclusive breastfeeding during the first 4 months, in all public, private and community health structures;
- a focus on IEC to promote optimal breastfeeding and weaning practices and combat misinformation and erroneous beliefs;
<table>
<thead>
<tr>
<th>Activity</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>National breastfeeding policy</td>
<td>Yes, 1994</td>
</tr>
<tr>
<td>National breastfeeding committee/coordinator</td>
<td>Yes, 1994</td>
</tr>
<tr>
<td>Comprehensive national breastfeeding program</td>
<td>Yes</td>
</tr>
<tr>
<td>Significant national allocations for breastfeeding promotion</td>
<td>No</td>
</tr>
<tr>
<td>Health services--hospitals with rooming-in</td>
<td>Yes, except for C-sections cases, and in some private facilities</td>
</tr>
<tr>
<td>Formula supplies given to mothers</td>
<td>No</td>
</tr>
<tr>
<td>National code of marketing</td>
<td>Yes, 1994</td>
</tr>
<tr>
<td>Companies distributing breast milk substitutes</td>
<td>Gallia and Nestle are two largest</td>
</tr>
<tr>
<td>Companies advertising breast milk substitutes</td>
<td>No blatant infractions of the Code Marketing for formula although baby bottles are used in print advertisements of bottled water for infants</td>
</tr>
<tr>
<td>Breast milk substitutes in hospitals</td>
<td>Only for severely malnourished children</td>
</tr>
<tr>
<td>Programs providing milk supplements to infants under six months</td>
<td>None</td>
</tr>
</tbody>
</table>
### Activities in Support of Breastfeeding (cont.)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionals trained in lactation in Baby Friendly management</td>
<td>7 Wellstart Associates, 4 trained by UNICEF</td>
</tr>
<tr>
<td>Breastfeeding mothers support programs</td>
<td>AVAMS</td>
</tr>
<tr>
<td>Support for working women</td>
<td>Maternity leave: 6 weeks pre-delivery and 16 weeks postpartum</td>
</tr>
<tr>
<td>Communication program to improve practices</td>
<td>Communication program implemented by UNICEF and SANAS in 1994; Wellstart to implement program in 1995</td>
</tr>
</tbody>
</table>

- regulation of the marketing and promotion of breast milk substitutes and associated products (National Code of Marketing for Breastmilk Substitutes). In pharmacies and hospitals around Dakar there were no blatant infractions of the marketing code. However, there is still work that needs to be done. For example, an advertisement promoting bottled water pictured a baby drinking the water through a baby bottle, which reinforces the belief that both baby bottles and water are okay for babies. Also, some of the infant formula companies (e.g., Nestle) still have an influence at hospitals, which should be monitored. Hospitals claim that infant formula is only used in cases of severely malnourished children; and

- revision of labor laws relative to maternal leave to be extended from the current 8 weeks to 16 weeks. This would give working women ample opportunity for exclusive breastfeeding up to at least four months. Regulations for breastfeeding breaks during the workday for working women with infants into the second year of life should also be adopted.

Breastfeeding promotion and training activities are components of the national program for nutrition carried out by SANAS. Standard strategies for SANAS programs include:

- training of health personnel
- IEC
- applied research
- evaluation and follow-up
Formal Health Services

Both public and private formal health services are available throughout Senegal. There are 3 teaching hospitals and health care coverage is adequate in the cities. In the rural areas, however, the majority of people have limited or no access to these institutions. Nevertheless, the majority of Senegalese women have a number of contacts with formal health sector services that provide opportunities for the promotion of optimal breastfeeding.

Unfortunately, prior to the existence of a national breastfeeding policy, breastfeeding practices in health structures were often less than optimal:

Prenatal visits: 94% of urban women and 64% of rural women go for prenatal visits, most of them 2-3 times (EDS-II, 1994). However, the KAP study reveals that over 85% did not receive any advice on breastfeeding or infant feeding.

Intra-partum: The overwhelming majority of births in rural areas take place at home (70%), without the presence of trained birth attendants. In comparison, over 80% of urban births occur in a health facility (EDS-II, 1994). Breastfeeding practices revealed by the KAP study include:

- 81% to 86% of health workers reported having counseled mothers on breastfeeding at delivery;
- According to most health workers, a newborn should not be breastfed within the first 6 hours postpartum. However, the majority of health workers (60%-70%) favor rooming-in;
- 85% advise feeding sugar water while waiting for the milk to "come in"; and
- 70% of health workers in maternities facilitated mothers' desire to bottle feed, and only 10% advised against it. Health workers in PMIs were more adamantly against bottle feeding (45% were against it).

Post-natal visits:

- Supplementation of breastfeeding with formula bottle feeding is the most frequent (65%-75%) advice given to working mothers; and
- When mothers of one month old infants complain of not having enough milk, the most common first reaction of health workers is to examine the breasts, then weigh the infant. Unfortunately, the KAP study does not report on what advice is given to the mothers after health workers have completed the breast exam and the weighing. Continuation of breastfeeding was the first

Groups Active in Breastfeeding Support

- SANAS (Service de l'Alimentation et de la Nutrition Appliquée au Sénégal)
- AVAMS (Association Volontaire d'Allaitement Maternel au Sénégal)
- USAID/WELLSTART
- UNICEF
- Wellstart Associates
reaction of less than 4% of them. No health worker suggested increasing breastfeeding frequency (PRITECH/SANAS, 1991).

Traditional Health Care

Because of their ability to reach a large number of women, traditional birth attendants have an important role to play in the promotion of optimal breastfeeding practices in Senegal. Twenty-eight percent of Senegalese babies are delivered by traditional birth attendants. TBAs are usually highly respected women in the community, for whom breastfeeding is the norm and whose advice is listened to. Therefore, there is a need for the modern health sector to cooperate and coordinate with the traditional health sector, by training them and making them legitimate partners in the campaign to promote optimal breastfeeding practices.

Training Programs for Health Care Providers

The training of health professionals is a major component of Senegal’s breastfeeding program. In fact, UNICEF’s 18 hour training module on lactation management and proper infant feeding practices has been adapted for training use in Senegal. This training module will serve as the basis to train health care providers in optimal breastfeeding practices both during pre-service and while in-service:

- **Pre-service:** mainly through training teaching staff in medical training institutions, and through revising and updating curricula. Pre-service breastfeeding training is currently limited to a mere three hours. This low emphasis on breastfeeding leads to a low promotion of exclusive breastfeeding by health providers.

- **In-service:** through training of health staff of pediatric and obstetric wards at teaching hospitals, through training of master trainers at the national, regional and local levels, and through technical workshops and refresher courses for those health professionals in charge of health facilities.

Women’s Work and Support Systems

The impact of the rules and regulations written to support working breastfeeding women is limited due to the minimal involvement of women in the formal labor force. In addition, the lack of adequate facilities, such as on-site nurseries, make it difficult for salaried women to take advantage of legal provisions and maintain optimal breastfeeding behaviors while working outside of the home. There is also little awareness that breastmilk can be expressed and stored without expensive equipment or a refrigerator. In rural and urban areas alike, the majority of women are active in the informal sector, where these rules and regulations are neither applicable nor enforceable. To make matters worse, traditional networks of mutual assistance that women can draw upon in rural settings often cease to be operational when women move to the cities. All of these constitute real constraints for Senegalese working women to practice exclusive breastfeeding in the first 6 months and continued breastfeeding well into the second year, whether they work in a formal or informal setting.

On the positive side, a grass roots organization called AVAMS (Association Volontaire d’Allaitement au Sénégal), based in Thies, has become very active in the promotion of breastfeeding at the community level. This group is currently operating in a few regions near Thies and trying to expand to other regions. It has been around for about two years and has received some funding from UNICEF and IBFAN. AVAMS has expressed a need for IEC materials to support its efforts.
Information, Education and Communication (IEC)

The KAP study in 1991 was invaluable in pointing out that IEC materials are needed for at least two different target audiences: health care providers and mothers. The KAP study was also able to identify specific areas where health workers and mothers lacked knowledge, and how similar or divergent the lack of knowledge of both groups was (See previous text boxes). The KAP study took place in Dakar and its suburbs. Outside of this single KAP study, very few studies have documented specific behaviors and motivations relative to breastfeeding.

In Senegal, radio is the medium of choice; 80% of urban and two-thirds of rural households have radios (EDS-II, 1994). In cities, television can also play an important role. About one third of urban households have televisions.

Hospital and maternity ward walls were generally bare in the sites visited. These walls offer an excellent opportunity to hang posters to target both mothers and health workers. Counseling cards or posters with the correct instructions listed could greatly enhance the effectiveness of health workers.

Current nutrition messages for infant feeding are, in general, too complicated and could be harmful. Breastfeeding materials reviewed and interviews showed that general promotion of breastfeeding is not enough. There is a need to go more in-depth than simply communicating "Breastfeeding is good" (which Senegalese mothers already believe). Current IEC materials in-country do not adequately address the information needs of Senegalese mothers. Furthermore, the issue of 4 or 6 months needs to be reviewed; Wellstart, WHO, UNICEF and the WorldBank promote exclusive breastfeeding for around 6 months but the current recommendation of the Ministry of Health and UNICEF/Senegal is 4 months.

Major challenges to overcome include:

- the prevalent belief in the health profession that Senegal does not have a breastfeeding problem;
- limited technical expertise of health practitioners in lactation management;
- the resolve of infant formula and bottled water companies to promote their products for babies (0-6 months) in Senegal;
- the resilience of certain customs and traditions;
- the limited access of rural women to health services; and
- the high rate of illiteracy, particularly among women.
V. RECOMMENDATIONS

Mothers' Practices

The objective is to increase mothers' knowledge of optimal breastfeeding practices and increase their ability to implement this knowledge. The key areas to focus on are exclusivity, weaning, maternal nutrition, perceptions of insufficient milk and Lactation Amenorrhea Method (LAM) for subgroups of women.

Priority actions include:

- Educating Senegalese women on what constitutes optimal breastfeeding practices and providing specific information on how to improve what they are already doing. Senegalese women already know that breastfeeding is important. Therefore, this education should focus on the need for nothing but exclusive breastfeeding for the first 6 months, no water for infants, and appropriate timing and content of complementary foods.

- Education of mothers and other influential family members (these other people need to be identified through formative research) on why it is important for pregnant and lactating women to eat more than usual. This education has to take into account women's concerns about avoiding difficult deliveries and death during childbirth. Practical advice should also be provided on how to eat more than usual. This advice should expand upon present positive beliefs on consumption of porridge and cow's milk to improve milk production.

- Teaching mothers who need to be separated from their infants for long periods of time (salaried women, as well as other mothers who may face these constraints) how to express their milk, store it properly and have it fed to the baby with a cup. The emphasis here should be on the critical need to do this in the first 6 months, stressing the large commitment that needs to be made but for a short period. Other arrangements for older infants, which may or may not include milk expression and/or storage, need to be explored.

- Imparting basic understanding of lactation mechanisms directly to mothers, to enable them to solve, on their own, common lactation-related problems such as perceptions of insufficient milk.

- Working with women to assist them in developing support systems which will enable women working in the informal sector (the majority of women) who are not protected by labor laws to practice optimal breastfeeding. Examples of support systems include labor-saving technologies, formation of support groups for breastfeeding mothers, community nurseries, etc.

- Targeting LAM efforts to subgroups of women who have shorter lengths of postpartum amenorrhea.

Political, Legal and Financial Environment

The objective is to implement the national plan of action for the promotion of optimal breastfeeding and weaning, ensure that policies and guidelines are being implemented and adhered to and that program targets are being met.
Priority actions include:

- Stressing economic, health and fertility advantages and linkages of exclusive breastfeeding with diarrhea, child morbidity (especially diarrhea and respiratory infections) and mortality.

- Improving the breastfeeding policy to emphasize the child spacing advantages of breastfeeding, focusing on exclusive breastfeeding; mentioning that water is unnecessary and extremely harmful for infants under 6 months; moving the policy toward international recommendations of exclusivity for about 6 months rather than 4 months.

- Enforcing and promoting the marketing code; working with health workers to enable them to enforce the code in the institutions where they work.

- Including a wider representation of NGOs and grass roots organizations such as AVAMS on the National Breastfeeding Committee. This will lead to improved coordination of breastfeeding activities in Senegal and better overall promotion of optimal breastfeeding.

- Monitoring the economic and financial savings which will accrue both at the macroeconomic and at the household levels as the result of widespread adoption of exclusive breastfeeding. Exclusive breastfeeding can save both Senegal and families a significant amount of money by reducing purchases of substitutes, and lowering child morbidity and mortality.

**The Health Infrastructure**

The objective is to increase the technical knowledge of health care providers, influence their attitudes, policies and practices, and improve their effectiveness in reaching and counseling mothers.

Priority actions include:

- Convincing senior health professionals of the benefits of promoting exclusive breastfeeding and other beneficial behaviors. This point was repeatedly stressed by the few people in hospitals and health centers who were trying to promote breastfeeding. This is a crucial step since people look to doctors and health providers for advice. One way to accomplish this is to promote breastfeeding practices through seminars that are regularly held for health professionals at most hospitals.

- Imparting basic understanding of lactation mechanisms to health workers, so that they can help mothers solve lactation-related problems. Particular emphasis should be made on how to assist women who complain of insufficient milk to increase their own milk production by increasing suckling frequency.

- Amending treatment algorithms for diarrhea and dehydration to take into account infant age (<6 months, >6 months) and breastfeeding status. Health workers need to be trained in these new algorithms.

- Using the findings of the 1991 KAP study in the upcoming qualitative research to tailor trainings. Trainings must explain why exclusive breastfeeding is good, what the optimal practices are and how to best help mothers.
Involving TBAs, traditional healers and other religious and traditional leaders as partners in the promotion of optimal breastfeeding.

Integrating breastfeeding into regular service delivery. This includes monitoring the nutritional status of pregnant women, beginning breastfeeding advice at prenatal visits and instituting routine postpartum visits.

Having all teaching hospitals adopt the Ten Steps to successful breastfeeding as soon as possible so as to become baby friendly hospitals.

Training and collaborating with TBAs who, in Senegal, are responsible for over a quarter (28%) of all births.

Establishing breastfeeding groups linked with hospitals. These groups would be led by trained (Wellstart or UNICEF) professionals who could promote breastfeeding at the health facilities in which they work.

**Information, Education and Communication**

The objective is to convince the Senegalese people of the benefits of optimal breastfeeding and weaning practices, teach them these optimal practices and foster a supportive environment for Senegal's breastfeeding program.

Priority actions include:

- Grouping mothers by meaningful socio-economic characteristics (i.e. rural/urban, ethnic/linguistic, etc.) and undertaking qualitative research to study the specific motivations and constraints behind each group’s breastfeeding and weaning behaviors. IEC messages can then be tailored accordingly.

- Identifying influential people (i.e. religious and traditional leaders, grand-mothers, etc.) in the maternal environment that can enhance mothers' willingness and ability to improve breastfeeding practices. Make sure that these people are specifically targeted in IEC activities.

- Developing materials targeting mothers and health providers for use at the community level.

- Overcoming the perception that Senegal does not have a breastfeeding problem. IEC activities specifically directed toward policy makers and health personnel are particularly important because of their influence on maternal behavior.

- Integrating breastfeeding promotion into family planning and diarrhea IEC activities.
ANNEX A: BIBLIOGRAPHY
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Wellstart International is a private, nonprofit organization dedicated to the promotion of healthy families through the global promotion of breastfeeding. With a tradition of building on existing resources, Wellstart works cooperatively with individuals, institutions, and governments to expand and support the expertise necessary for establishing and sustaining optimal infant feeding practices worldwide.

Wellstart has been involved in numerous global breastfeeding initiatives including the Innocenti Declaration, the World Summit for Children, and the Baby Friendly Hospital Initiative. Programs are carried out both internationally and within the United States.

**International Programs**
Wellstart's *Lactation Management Education (LME) Program*, funded through USAID/Office of Nutrition, provides comprehensive education, with ongoing material and field support services, to multidisciplinary teams of leading health professionals. With Wellstart's assistance, an extensive network of Associates from more than 40 countries is in turn providing training and support within their own institutions and regions, as well as developing appropriate in-country model teaching, service, and resource centers.

Wellstart's *Expanded Promotion of Breastfeeding (EPB) Program*, funded through USAID/Office of Health, broadens the scope of global breastfeeding promotion by working to overcome barriers to breastfeeding at all levels (policy, institutional, community, and individual). Efforts include assistance with national assessments, policy development, social marketing including the development and testing of communication strategies and materials, and community outreach including primary care training and support group development. Additionally, program-supported research expands biomedical, social, and programmatic knowledge about breastfeeding.

**National Programs**
Nineteen multidisciplinary teams from across the U.S. have participated in Wellstart's lactation management education programs designed specifically for the needs of domestic participants. In collaboration with universities across the country, Wellstart has developed and field-tested a comprehensive guide for the integration of lactation management education into schools of medicine, nursing and nutrition. With funding through the MCH Bureau of the U.S. Department of Health and Human Services, the NIH, and other agencies, Wellstart also provides workshops, conferences and consultation on programmatic, policy and clinical issues for healthcare professionals from a variety of settings, e.g. Public Health, WIC, Native American. At the San Diego facility, activities also include clinical and educational services for local families.

*Wellstart International is a designated World Health Organization Collaborating Center on Breastfeeding Promotion and Protection, with Particular Emphasis on Lactation Management Education.*

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