

Child Feeding Practices in Dhamar, Yemen

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Abstract

A survey was conducted in Dhamar Governorate in September 1992 where 362 mothers from villages around Dhamar and 375 mothers from Dhamar City were interviewed about child feeding practices. At the time of the survey, each of the mothers had a living child who was less than 2 years old. Although around 90% of the mothers were breast-feeding their babies during the first 3 months of life, the Full Breast-feeding rate was only 41.9%. The Timely first sucking rate was zero and the Bottle-feeding rate was 25.1%. The continuing breast-feeding rate at 1 year was 60.9% and 36.4% at 2 years .

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خلاصة البحث :

تم إجراء مسح ميداني في سبتمبر ١٩٩٢م لإستبانة ٣٦٢ من أمهات يعشن في قرى حول مدينة ذمار ، و ٣٧٥ أمأ من مدينة ذمار ، حيث كان لدى كل أم طفل حي عمره أقل من عامين أثناء إجراء المسح . وعلى الرغم أن حوالي ٩٠% من الأمهات قد أرضعن أطفالهن طبيعياً خلال الثلاثة أشهر من أعمارهم إلا أن معدل الرضاعة الطبيعية الوافية (Full Breast – feeding Rate) كان ٤١,٩% فقط . كما أن المعدل الآتي للرضاعة الأولى (Timely First Sucking Rate) كان صفرأ ، ومعدل الرضاعة الصناعية (Bottle – feeding Rate) كان ٢٥,١% . كذلك فإن معدل إستمرارية الرضاعة الطبيعية (Continuing Breast – feeding Rate) كان ٦٠,٩% عند عام واحد ، و ٣٦,٤% عند عامين .

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Summary

A survey was conducted in Dhamar Governorate in September 1992 where 362 mothers from villages around Dhamar and 375 mothers from Dhamar City were interviewed about child feeding practices. At the time of the survey, each of the mothers had a living child who was less than 2 years old. Although around 90% of the mothers were breast-feeding their babies during the first 3 months of life, the Full Breast-feeding rate was only 41.9%. The Timely first sucking rate was zero and the Bottle-feeding rate was 25.1%. The continuing breast-feeding rate at 1 year was 60.9% and 36.4% at 2 years.

Introduction

Exclusive breast-feeding for at least four months, timely introduction of mixed feeding at 6-9 months, continuing breast-feeding for more than one year and avoiding bottle-feeding at any age are the basic constituents of sound infant feeding. These constituents are essential for adequate growth and positive health of children (1,2,3). With this in mind, Health Authorities and Health Workers in the Republic of Yemen (ROY) have always been keenly interested in the patterns and trends of infant feeding practices of the different sectors of the Yemeni Society and therefore several studies have been conducted over the past 25 years.

The earliest of the recorded studies, conducted in 1971 reported that there was about three days delay in initiation of breast-feeding, the duration of which was getting shorter and that artificial feeding was on the increase, (4).

In a study conducted in Sana'a in 1977, it was found that the median age of weaning was seven months, and that only one quarter of the infants continued breast-feeding beyond 17 months, (5).

In another study in 1979, it was found that 68% of mothers in an urban area had stopped breast-feeding by the age of six months and only 7% continued beyond the first birthday, (6).

The pattern of breast-feeding in Udain, Ibb and two areas in Sana'a was summarized by Griener (7) as "... the typical feeding pattern that emerged from the baseline survey is one in which breast-feeding begins on

the second day of life, bottle feeding is begun at two months in rural Udain and three months in Urban samples: breast-feeding ends at nine months in Udain and three to five months in the cities.”

In a survey conducted in late seventies and early eighties in Yemen, it was reported that higher maternal education, younger maternal age and availability of electricity were associated with a shorter duration of breast-feeding, (8). However, these are probably characteristics of women of higher socio-economic class who were probably Urban dwellers, (4).

World Fertility survey (1979) data showed that rural mothers fed their children for an average of 13.1 months compared to 10.3 and 9.5 months in Urban resident and Urban migrant mothers respectively and that the more educated the mother, the shorter is the mean duration of breast feeding, (8).

The National Nutrition Survey quoted by Musaiger (4) gave the mean duration of breast-feeding as 12.7 months in rural areas compared to 5.6 months in Urban areas giving a similar Urban rural differential but somewhat shorter mean duration compared to other studies.

The purpose of the present investigation is to:

- ◇ Study the duration and pattern of breast-feeding in Dhamar Governorate in relation to socio-economic factors and traditional attitudes;
- ◇ Compare them with the practices of the previous decade;
- ◇ Establish baseline data using the Key Indicators recommended by WHO for assessing Breast-feeding Practices, (2).

Material and Methods

This survey was carried out during the month of September 1992 in Dhamar City which is about 100km South West of Sana'a, the capital of ROY.

Two groups were included: an urban group consisting of mothers living in the city of Dhamar (referred to as Urban mothers) and rural group consisting of mothers living in the villages around Dhamar (referred to as Rural mothers).

The questionnaire was administered by bilingual female medical students from Sana'a University to consecutive mothers who happened to have babies less than two years when attending the Primary Health Care Centre in Dhamar City.

The mothers were asked for consent to answer questions about the health of their children. All eligible mothers agreed to participate. The children were quota sampled aiming to include two groups. The first includes 25 mother-child pairs in each completed month up to the age of 12 months and the second includes 25 mother-child pairs in each 3 months group in the second year of age. However, because of time constraint the full quota in some groups could not be attained.

The questionnaire had been designed, pilot tested and modified accordingly. It consisted of 80 questions that covered socio-economic and educational attainments, vital statistics and maternal biologic characteristics as well as information on child's breast-feeding and weaning. Questions about mother's attitudes and beliefs in relation to infant feeding and health were also included. Information about breast-feeding and bottle-feeding practice was restricted to the 24 hours preceding the inquiry (24-hour recall).

The eight Arabic-English speaking female medical students who administered the questionnaire were trained on how to phrase the questions.

Results

The Urban group consisted of 362 mother-child couples, 56.9% of the babies were boys, while the Rural group consisted of 375 mother-child couples 59.5% of the babies were boys. The sex distribution in the two groups was not significantly different.

Table I shows the age distribution of the mothers at the time of study. The majority was below the age of 30 years. Only five were above 40 years of age and the age distribution in the groups are almost identical. Table II shows that half of the mothers were married before the age of fifteen years and none got married after the age of 30 years. The age distribution in the two groups was also similar.

Figure I show that illiteracy rate is very common in this sample. The highest illiteracy rate was among Rural mothers followed by Urban mothers and then Rural fathers with the least rates in Urban fathers at 88, 64.2, 39.9 and 24.9% respectively with an overall illiteracy rate of 54.4%. The differences in illiteracy rates between fathers and mothers and between Rural mother & Urban mother are highly significant ($p \leq 0.0001$).

Table III shows that 40.5% of Urban mothers were using some form of contraception compared to 22.9% of Rural mothers. The difference was highly significant ($p \leq 0.0001$). The types of contraception used in the two groups were similar. The commonest was Breast-feeding followed by IUD and then the pill. A few opted for injectable contraceptives.

Table IV shows that more than half the Urban mothers and $\frac{3}{4}$ of Rural mothers delivered at home without any assistance from a trained health personnel while less than a quarter of the total sample delivered in a health facility. Health facility delivery was commoner in the Urban group.

The majority of the mothers have received some health education related to breast-feeding. About 86.7% of the Urban group and 52.5% of the Rural group have admitted to being offered some information about breast-feeding by health personnel sometime during pregnancy. The difference was highly significant, ($p \leq 0.0001$).

None of the mothers started breast-feeding within the first hour in either group. 59.2% of the Urban mothers and 47.2% of the Rural mothers started feeding within the first day, the difference being very significant ($p \leq 0.001$). When asked about rooming in for those who delivered in hospital, more than half of all the mothers were separated from their babies during hospital stay. The separation tended to be significantly commoner ($p \leq 0.05$) in the Urban group where 65.7% of the mothers were separated compared to 36.5% for the Rural mothers.

About one of every six mothers gave her baby a bottle during the first day. 21.4% of Urban mothers gave the bottle early compared to 11.5% of Rural mothers, the difference being very significant ($p \leq 0.01$).

Table V and Figure III show that breast-feeding rates were high and almost equal in the two groups during the first year while on the second year the Rural group maintained a higher breast-feeding rate compared to the Urban group. There was no significant difference when the rates in the two groups are compared for the whole period.

Table VI shows why breast-feeding was discontinued. The commonest causes in the Urban group were not enough milk followed by a new pregnancy and then maternal illness. In the Rural group, the order was different with the commonest reason being new pregnancy followed by insufficient milk and then maternal illness.

The Key Indicator of Breast-feeding practice for the two groups combined are given in Table VII.

Discussion

Maternal age in the two groups of this study shows a similar pattern of distribution. In both groups almost one seventh of the mothers were below 20 years at time of study. The pattern is even more striking when we consider maternal age at first marriage. Most of the mothers were married before 20 and none of them married after 30 years.

Bin Gadeem reported similar age distribution in mothers living in poor urban areas in the Southern part of Yemen, while in the Urban Elite group only 30% married before they were 20 Years, (9).

Maternal illiteracy rate is extremely high in this sample: 88% in the Rural group and 64% in the Urban group. These are much higher than rates reported in a similar study from Sudan conducted ten years earlier where illiteracy rates of 55% and 65% were reported for urban and rural mothers respectively, (10). These rates are also higher than those reported from Southern Yemen, (9). The fathers in this sample are significantly better educated than the mothers.

Use of Family Planning Methods was surprisingly high even among Rural mothers. Almost a quarter of whom was using some methods of contraception. This may be due in a great part to the dedicated efforts of the Dutch group working in the main hospital. In fact, during the survey many mothers enquired specifically about the availability of the services of this team.

As expected more Urban mothers delivered in health facilities. However, the fact that $\frac{3}{4}$ of the Rural mothers and $\frac{1}{2}$ of the Urban mothers delivered at home without the help of a trained midwife is very distressing.

The high percentage of mother receiving health education messages related to breast-feeding during antenatal visits is highly commended. These

figures were much higher than figures reported from other developing countries, (10). For example, none of the mothers in this sample started breast-feeding during the first hour and only about half started within the first day. It was also noted that at least one sixth of all mothers gave their babies feeding bottles during the first few days of life. Such practices were reported to have negative effect on breast-feeding and it is therefore necessary that health education messages must address such issues. It is not enough to preach mothers about the importance of breast-feeding. Health education must also show them how to breast-feed successfully, (11,12,13). Two points need to be discussed here. The first is the observation that the health education is offered to a higher percentage of the Urban group. This means that the peripheral primary health care facilities visited by the Rural group need to step up health education activities particularly in relation to breast-feeding. The second point relates to the fact that many mothers adopted practices that are likely to negatively affect breast-feeding.

More than half the mothers who delivered in a health facility admitted to being separated from their babies during their stay in the facility. This unnecessary and unacceptable practice is likely to negatively affect breast-feeding and it is against the "Ten steps to successful breast-feeding" recommended by WHO/UNICEF, (11,14). It is mandatory for health authorities to make hospitals adopt a more baby friendly attitude.

Breast-feeding rates were quite high in the two groups throughout the first year starting with rates as high as 90% in the first 2 months while more than 60% are still breast-feeding by the end of the first year. This is comparable to rates reported by Bin Gadeem in Southern Yemen (9). Jumaan reanalysed data derived from the Nutritional Status Survey for Tehama Region (1979) and reported similar breast-feeding rates in the first year to our results (15). In the early eighties, other workers in other parts of Northern Yemen reported lower breast-feeding rates (3,6). Unlike our results, data from World Fertility Survey (WFS) conducted in Yemen in 1979 showed a definite tendency for Rural mothers to breast-feed their babies longer than Urban mothers. Akin's (8) presentation of the data of WFS for the whole of Yemen gave results similar to ours in the first 6 months while the breast-feeding rate in latter part of the first year and the second year were much lower. However, we must bear in mind that WFS was carried out about 13 years earlier and it depended on maternal recall for

the age of weaning while current status depending on 24 hours recall. Akin also presented data from ROY, Egypt, Tunis and Jordan. The rates from Egypt and Tunis were comparable to rates obtained in this study while the rates for Jordan were somewhat lower.

This study is the first to be conducted in ROY after the publication of the key Breast-feeding indicators (2) and therefore, we were unable to compare our indicator values with previous studies. However, these values can serve as baseline data for future studies. Analysis of our data as shown in table VI shows clearly that the full breast-feeding rate at 41.9% is very low due to common practice of early introduction of artificial milk feeds. Also the timely mixed feeding rate of 57% is low. The timely first sucking rate is zero. The bottle-feeding rate is deplorably high at 25.1%. All these parameters give quite strong reasons for concern and strong concerted efforts must be exerted to improve them through progressive hospital policies that promote breast-feeding and through aggressive pertinent health education campaigns.

The main three reasons for stopping breast-feeding in the two groups were a new pregnancy, maternal sickness and insufficient milk. However, the commonest reason in the Rural group was new pregnancy while in the Urban group is insufficient milk, but these differences were not significant.

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Table I
The Age of Mothers by Study Group

Group	N	Mother's Age			
		π 20 (%)	20-29 (%)	30-39 (%)	ϕ 40 (%)
U	360	12.8	58.6	27.5	1.1
R	375	15.2	57.6	26.9	0.3
Total	735	14.0	58.1	27.2	0.7

Table II
Age of Mothers at First Marriage by Study Group

Group	N	Mother's Age		
		π 15 (%)	15-19 (%)	20-29 (%)
U	362	48.1	45.9	6.1
R	375	50.7	45.6	3.7
Total	737	49.4	45.7	4.9

Table III
Type of Contraception Used

Grou p	N	Pill	IUD	Injection	Breast- feeding	Other s	Total
U	362	6.9	13.5	3	15.2	1.9	40.5
R	375	2.7	7.7	3.7	8.5	0.3	22.9

Table IV
Place of Delivery by Study Group

Study Group	N	Percent of Mothers delivered at:			
		Home: W/O Trained M/Wife	Home with Trained Midwife	Health Facility	Other
U	362	54.1	18.0	27.6	0.3
R	375	76.5	6.4	16.8	0.3
Total	737	65.5	12.1	22.1	0.3

Table V
Duration of Breast Feeding (Analysed by Life Table Technique)

Age in Months	Percent Breast-Fed in each Month Group			
	U		R	
	N	%	N	%
0-2	68	91.2	62	87.5
3-5	75	88.0	95	86.3
6-8	54	70.5	68	73.5
9-11	59	61.0	69	68.0
12-14	24	41.7	25	80.0
15-17	17	47.1	20	55.0
18-20	35	25.7	28	39.3
21-23	11	36.4	5	80.0
Total	334		372	

Table VI
Key Breast Feeding Indicators

<i>Indicator</i>	<i>% Age</i>
Exclusive breast feeding rate	39.8
Predominant breast feeding rate	02.0
Timely complementary feeding rate	57.4
Continued breast feeding rate (1 Year)	60.9
Continued breast feeding rate (2 Years)	36.4
Bottle feeding rate	25.1
Timely first sucking rate	00.0

Table VII
Reasons for Stopping Breast Feeding by Study Group (%)

<i>N</i>	<i>U</i>	<i>R</i>
	119	93
Breast milk not enough	31.9	26.9
Mother sick	16.0	22.6
Child sick	05.9	04.3
Mother workload	00.8	00.0
New Pregnancy	24.4	30.1
Others	21.0	16.2

Figure I
Education of Mothers by Study Group

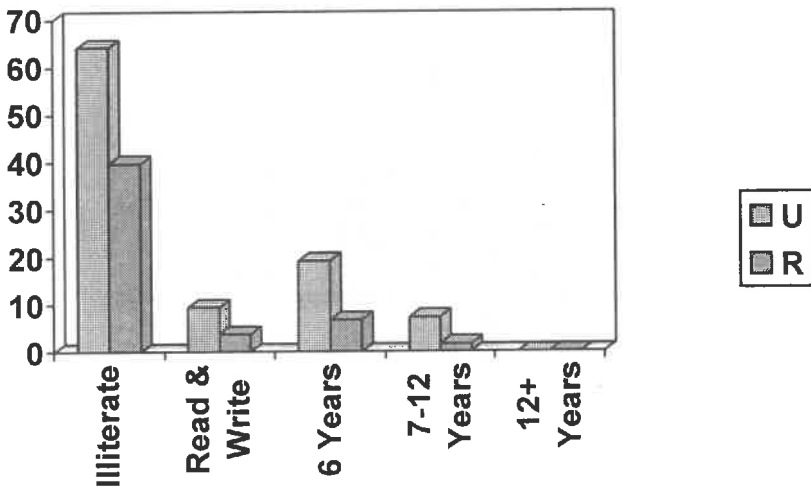


Figure II
Education of Fathers by Study Group

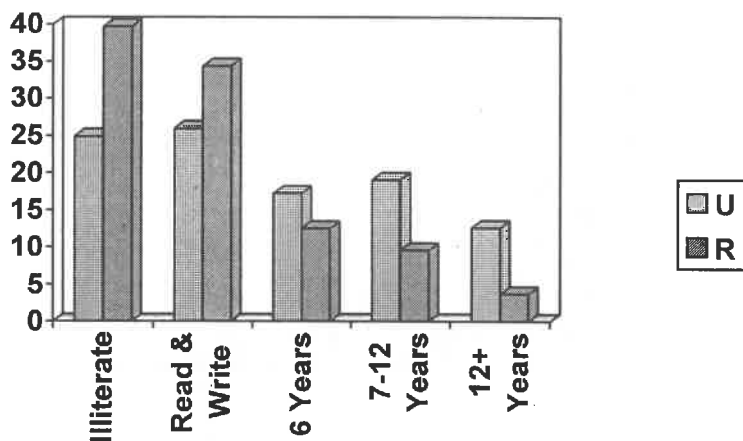


Figure III
Duration of Breast-Feeding
(Analysed by Life Table Technique)

