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Exclusive Breastfeeding Rates And Determinants: A Prospective Observational Study

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ABSTRACT

Exclusive breastfeeding during the early months of life reduce infant morbidity and mortality. Breastfeeding rates are generally assessed by the 24-recall method, which overestimates the actual rates. The objective of this study was to determine actual exclusive breastfeeding rates in a cohort of Zwara and neighboring cities to determine the reasons that lead to cessation of breastfeeding before six months of age. All 87 full-term newborns in Zwara and Al-Jmail hospitals from January to September 2010, invited for the study. Out of 73 who agreed to participate in the study 72 were followed up at two, 72 at four, and 69 at six months. An interviewer administered questionnaire asked about feeding history and socio-demographic characteristics. Child health development record was used to assess the growth. Exclusive breastfeeding rates at two; four and six months were 94.44%, 86.11% and 75.36% respectively. The main reasons to stop exclusive breastfeeding between two to four months was because of the mother anxiety about the baby's development. Majority of the babies that were not exclusively breastfed still continued to have breast milk. Second, and third born babies had lower rates than first born respectively. Maternal anxiety due to fear of inadequate breast milk is an important factor for failure of lactation at the first 4 months. Mothers starting to work and concerns about adequacy of breast milk were major reasons to cease exclusively breastfeeding.

INTRODUCTAION

Exclusive breastfeeding during early months of life reduces infant morbidity and mortality (Kramer, 2001). Data from the World Health Organization (WHO, 2012-a) showed that about 60% of all deaths, occurring among children aged less than five years in developing countries could be attributed to malnutrition. (WHO, 2012-a) defines exclusive breastfeeding as, feeding an infant only with breast milk,

excluding solids or any other fluids except medicines, vitamins, and minerals. (WHO, 2012-b) also recommend infants to be exclusively breastfed during first 6 months of life. According to the UNICEF (2006), only every third child living in the developing world is exclusively breastfed during first six months of life. Optimal breastfeeding not only saves the lives of more than one million children under five, it also improves children's quality of life (world breast feeding Trends, 2009).

Even under optimum conditions it is not possible to achieve 100% of exclusive breastfeeding due to other factors involved (UNICEF, 2006). Postpartum complications or medication taken by the mother may prevent breastfeeding. Occasionally there are some mothers who may need additional support to feed their babies. Failure in breastfeeding is due to incorrect feeding techniques compared to inadequacy of breast milk in most instances.

The 24 hour recall method was used in this survey, which is the standard method of assessing exclusive breastfeeding rate. According to this method even a child who had other foods, but only breastfed within 24 hours of inquiry, is considered exclusively breastfed. This method was used to avoid the higher recall bias of retrospective studies. The most accurate way to calculate actual exclusive breastfeeding rate is to follow up a cohort of babies periodically up to 6 months of age. A high dropout rate is the main limitation in this type of a study. There lone, the main objective of this study was to assess actual exclusive breastfeeding at different ages and to pin point to reasons for ceasing exclusive breastfeeding before the age of six months.

METHODOLOGY

Study site and population

The research was carried in between January to September 2010. All 87 full-term newborns in Zwara and Al-Jmail hospitals from January to March 2010, invited for the study. Out of 73 who participated in the study. 72 were followed up at two , 72 at four, and 69 at six months. An interviewer administered questionnaire asked about feeding history and socio-demographic characteristics. Child health development record was used to assess the growth. Babies selected (children) were assessed periodically regarding breastfeeding practices and growth.

Tools for data collection:

Parents were contacted either over the phone or in person at doctor visits to be informed about time and date of the interview. Babies were followed up at two, four and six months of age. Feeding practices at each follow-up obtained based on feeding practices of the baby during previous two months, which was recorded using a questionnaire administered by an interviewer.

Mothers were specifically questioned whether any food, formula

milk or water was given to the baby, other than breast milk during the period concerned. At each follow up, babies who were only on breast milk up to that time were considered exclusively breastfed up to that age. A baby who was given any food, drink or water, in addition to breast milk was considered not exclusively breastfed.

Medicines, vitamins, minerals and oral rehydration solution (ORS) given on medical advice were allowed. Socio-demographic data were also data collected. When baby was not exclusively breastfed, the reasons to stop exclusive breastfeeding were obtained from the mother and recorded. If a mother mentioned inadequate weight gain as the cause of growth faltering, the child health development record of the child was checked to verify the growth. When there was no growth faltering, that was recorded as mother felt inadequate breast milk category. At each visit the advantages of breastfeeding were explained to the mothers by the interviewer. Mothers were encouraged to restart exclusive breastfeeding when there was no clear reason to stop exclusive breastfeeding.

Working mothers were educated about expressing breast milk. Highest education achieved by parents was recorded. Maternal age was age of the mother in completed years at the time of delivery. All children were examined by a pediatrician. Mothers were informed the date of next follow up. Reminders were made after permission by phone calls.

Data analysis

The Statistical Package for Social Sciences (SPSS) version 16 was used to analyze data.

Ethical considerations

Informed written consent was obtained from the mothers after explaining the objectives of the study. All mothers were informed about the follow up appointments at the time of recruitment for the study. Participation was entirely voluntary and mothers had the liberty of withdrawing from the study at any time. Advantages of exclusive breastfeeding were emphasized and incorrect feeding practices were corrected.

RESULTS

Of the 87 babies invited, 72, 72 and 69 babies were present at two, four and six months respectively. Babies who completed all three follow-ups had mixed socio-demographic characteristics as summarized in tables (1.A and 1.B).

Table (1.A) Socio-demographic characteristics of the study population (education level):

Ed. Status	Fathers	%	Mothers	%
Illiterate	6	8.96	5	7.25
Read & write	15	22.39	3	4.35
Primary & Prep.	15	22.39	14	20.29
Secondary	7	10.45	15	21.74
Diploma	17	25.37	19	27.54
University	7	10.45	13	18.84
Total	67		69	

Highest protection of fathers and mothers heddiplome.

Table (1.B) Socio-demographic characteristics of the study population (walk):

Employment Status	Fathers	%	Mothers	%
Full time employment	49	73.13	33	47.83
Part time employment	16	23.88	21	30.43
Non employed	2	2.99	15	21.74
Total	67		69	

Highest protection of fathers and mothers belong to for time employment group.

16 (23.19 %) of the mother's were at ages <30 years and 53 (76.81%) >30 years as represented in figure 1.

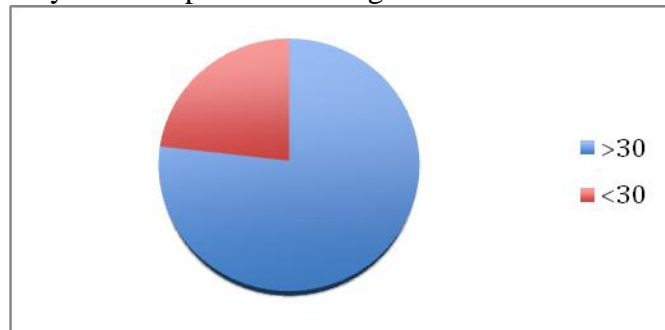


Figure (1): The mother's age's distribution

Within the first two months of life 94.44% of babies were exclusively breastfed as shown in table (2). Of the babies not exclusively breastfed, the majority continued breastfeeding along with formula milk or complementary feeds. At four months, most babies not exclusively breastfeeding were having breast milk plus infant formula, and at six months they were having breast milk and complementary feeds as shown in table (3).

Table (2): Exclusive breastfeeding rates at different ages

	Age of babies	Exclusively breastfed	Exclusive breastfeeding rate %
(n = 72)	2 months	68	94.44
(n = 72)	4 months	62	86.11
(n = 69)	6 months	52	75.36

Table (3): Pattern of feeding among babies who were not exclusively breastfed at 2, 4, and 6 months of age

	2 months	4 months	6 months
Stopped breastfeeding totally	1	2	5
Breastfeeding + infant formula	3	5	4
Breastfeeding + complementary feeds		3	8

Between birth and two months, and between two and four months maternal anxiety of inadequate breast milk was the main reason to stop exclusive breastfeeding. Mother returning to work was the commonest reason between four and six months. The reasons to stop exclusive breastfeeding demonstrated in table (4).

Table (4): Reasons to abandon exclusive breastfeeding at 2, 4 and 6 months of age

	0-2 month	2-4 months	4-6 months
Mother felt not enough breast milk	4	5	5
Growth faltering		1	2
Mother returning to work		3	7
Other conditions in mother or baby		1	1

The relationship between birth order and exclusive breastfeeding in the study group as demonstrated in table (5) and figure (2) is higher in the first born baby with 40.74 % of them being exclusively breastfed. Decreasing with second, third and every child after third to 27.78%, 16.67 and 14.81, respectively.

Table (5): The relationship between birth order and exclusive breastfeeding up to 6 months

Birth order number	Exclusively breastfed up to six months	Exclusive breastfeeding rate
1st baby	22	40.74
2nd baby	15	27.78
3rd baby	9	16.67
After 3rd baby	8	14.81
Total	54	

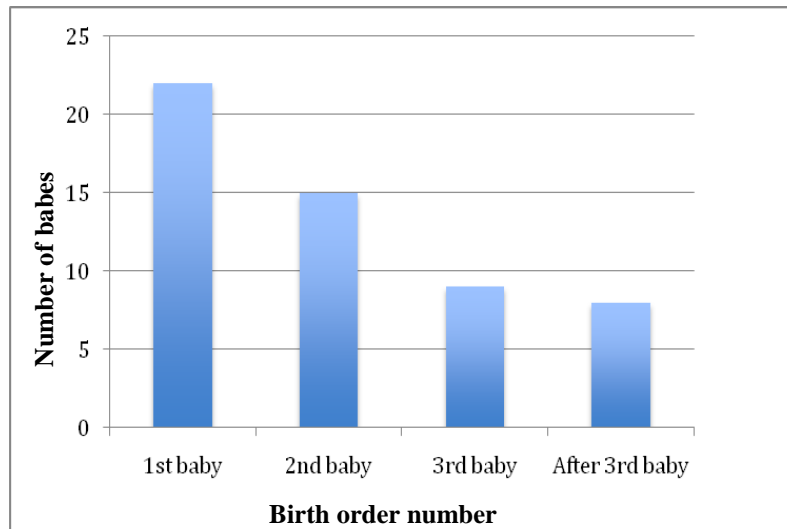


Figure (2): The relationship between birth order and exclusive breastfeeding up to 6 months

DISCUSSION

How an infant is nourished is a complex and multifactorial decision. Various social, psychological, emotional, and environmental factors impact whether an infant is breastfed or bottle-fed. The WHO (2009) recommends an exclusive breastfeeding period for the first six months of life, with the introduction of solid foods thereafter and continued breastfeeding until age two or more optimal breastfeeding practices. This is one of the most effective interventions to reduce infant and young child mortality, morbidity and malnutrition (World Breast feeding Trends, 2009). Although subject to considerable cross-national variation, supporting to this study the proportion of children being breastfed declines with age everywhere in the world (OECD, 2009), indicating exclusively breastfed babies decreased from 94.44 % to 75.36%.

The return to work is one of the reasons why mothers never start breastfeeding, or only do so for short durations (OECD, 2009). In this study it was a major reason at 6 months to quite exclusively breastfeeding. In a report of 33 countries breastfeeding rate the average scores indicated that women are not universally supported either at the level of the facility or at the community to carry out optimal breastfeeding practices (World Breast feeding Trends, 2009). Similarly reflected in this study with decreasing breastfeeding rate as mothers get back to work.

The results also demonstrate that the study participant have

higher than average breastfeeding rate as the WHO Global Data Bank on Breastfeeding presently covers 94 countries and 65% of the world's infant population (<12 months). Based on the latest data, it is estimated that 35% of these infants are exclusively breastfed between 0-4 months of age (WHO, 2009).

Despite breastfeeding's numerous recognized advantages over artificial feeding in industrialized countries, breastfeeding rates are typically low, and only slowly improving, specially in the European Region. In the Eastern Mediterranean Region, the exclusive breastfeeding rate in some countries is high compared to countries in other regions. Egypt and Saudi Arabia have an exclusive breastfeeding rate (under 4 months of age) of 68% (1995) and 55% (1991), respectively (WHO, 2009).

Ford and Lobbok (1990) reported that the more the educated the woman, the more likely she will initiate breastfeeding. On the other hand the more educated the women, the more likely she will be working and faced by obstacles to breastfeed.

The most common reasons reported by Samir, Arora *et al.*, (2009) mothers chose breastfeeding included: 1) benefits the infant's health, 2) naturalness, and 3) emotional bonding with the infant. The most common reasons bottle-feeding was chosen included: 1) mother's perception of father's attitude, 2) uncertainty regarding the quantity of breast milk, and 3) return to work Samir, Arora *et al.*, (2009). Factors that would encouraged bottle-feeding mothers to breastfeed included: more information in prenatal class, more information from TV, magazines, and books, and Family support.

IN CONCLUSION:

Mothers starting to work and concerns regarding adequacy of breast milk were the major reasons to cease in exclusively breastfeeding. Maternal anxiety due to fear of inadequate breast milk is an important factor for failure of lactation. Further study is required to assess the impact of a strong, focused, educational program on improving breastfeeding rates.

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