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# Breastfeeding knowledge, attitude and practice among mothers in Hail district, northwestern Saudi Arabia

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***Abstract:*** *Limited knowledge, or improper practice, of breastfeeding may lead to undesirable consequences. The aim of this study was to assess breastfeeding knowledge, attitude and practice (KAP) among mothers in Hail District and identify factors that may affect breastfeeding practice in the study population.*
***Methods:*** *A cross-sectional study using a questionnaire was conducted among mothers in Hail district. Breastfeeding KAP of participants who had at least one child aged five years or younger at the time of the study were assessed using a questionnaire, with emphasis on their experience with the last child.*
***Results:*** *A total of 60 women whose education was mainly university (39.7% ) and secondary (24.1 %) were included in the study. Most of them were from middle economic status. Most of the mothers 31.7 % (n= 19) mentioned only two benefits. Seventy percent (70 %) of the mothers initiated breastfeeding while 30 % did not, m*ean duration *was 9.3 ± 8.97 month. The major reason for ceasing breastfeeding before two years was mothers work 38.6 % followed by disease(15.8 %).*
***Conclusions:*** *This study showed that adverse work and maternal health related issues were the main reasons for a low rate of breastfeeding among women in Hail district-Saudi Arabia. Limited knowledge addressing the breastfeeding issues during pregnancy. Such findings should be useful to health professionals and officials when attempting to overcome breastfeeding barriers and to devise targeted breastfeeding interventions.*
***Keywords:*** *Breastfeeding; Knowledge, Practice, Attitude, Hail, Saudi Arabia.*

## I. Introduction:

Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. It is an important public health strategy for improving infant and child morbidity and mortality, improving maternal morbidity, and helping to control health care costs. Virtually all mothers can breastfeed, provided they have accurate information, and the support of their family, the health care system and society at large [1].

Breastfeeding is an important public health strategy for improving infant and child morbidity and mortality, improving maternal morbidity, and helping to control health care costs. Breastfeeding offers many benefits to nutrients to help infants to grow into strong and healthy toddlers. Some of the nutrients in breast milk also help protect infants against some common childhood illnesses and infections. It may also help maternal health. Certain types of cancer may occur less often in mothers who have breastfed their babies[2].

Women who don't have health problems should try to give their babies breast milk for at least the first six months of life. There are some cases when it's better not to breastfeed. If you have HIV or active tuberculosis, you should not breastfeed because you could give the infection to your baby. Certain medicines, illegal drugs, and alcohol can also pass through the breast milk and cause harm to your baby [2].

There is a growing concern recently about the changing patterns of breastfeeding, especially in societies in rapid transition, such as Saudi Arabia. Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development [3].

In an estimated 35% of all deaths of children under five years of age, under-nutrition is the underlying cause of death. Including underweight, suboptimal breastfeeding, and vitamin and mineral deficiencies. The proportion of underweight children in developing countries declined from 28% to 17% between 1990 and 2011. Although this rate of progress is close to the rate required to meet the relevant target, significant variations persist between and within regions[4].

Malnutrition stands behind 35 % of disease burden on children under the age of five. It is worth mentioning that the feeding of infants and young children of the key areas to improve child survival and promote the growth and development of children healthily. The first two years of a child 's life is particularly important, where he managed the ideal nutrition during this period of reduced morbidity and mortality , and reduce the risk of chronic diseases, and improve the overall development of the child . In fact, the best practices in the areas of breastfeeding and complementary feeding are important degree awarded by the ability to save the lives of 1.5 million children under the age of five every year [5].

Breastfeeding is associated with a reduced risk of infections otitis media, gastroenteritis, respiratory illness, sudden infant death syndrome, necrotizing enterocolitis, obesity, and hypertension [6] as well as it protects mothers from breast cancer[7]. Breastfeeding provides unsurpassed natural nutrition to the newborn and infant. Human breast milk also contains numerous protective factors against infectious disease and may influence immune system development, as noted in previous studies of infant response to vaccination and thymus gland development[8].

The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommend that every infant should be exclusively breastfed for the first six months of life, with breastfeeding continuing for up to two years of age or longer [8-10]. Exclusive breastfeeding is defined as feeding the infant only breast milk, with no supplemental liquids or solids except for liquid medicine and vitamin/mineral supplements [11].
Factors that might influence breastfeeding include race, maternal age, maternal employment, level of education of parents, socio-economic status, insufficient milk supply, infant health problems, maternal obesity, smoking, parity, method of delivery, maternal interest and other related factors [12].

Numerous barriers to breastfeeding are lack of knowledge, social norms, poor family and social support, embarrassment, lactation problems, employment and child care and barriers related to health services [13].Exclusive breastfeeding has many benefits for the baby and mother. Most important of which is the protection from gastric and intestinal contagious infections that cannot be noticed not only in developing countries but also in industrialized countries as well [5].

The mother 's milk is also one of the important sources of energy and nutrients for children aged between 6 months and 23 months. It can provide half of the energy needs or more than that for children aged 6-12 months, and one-third of the energy needs of children aged 12-24 months. The mother 's milk as well as an important source of energy and nutrients during infection, as it limits the death rates of children suffering from malnutrition [5,13].

A number of studies addressed breastfeeding in Saudi but still there is insufficient data available on breastfeeding in Saudi Arabia to monitor progress and develop promotion programs. The World Health Organization does not report any breastfeeding data in the country profile because there are no national data on breastfeeding [14,15].

A very recent review study by Juaid et al 2014 documented that there is a need for cohort studies to more accurately measure breastfeeding and risk factors. It also found out that the duration of any breastfeeding had shown a decline over time, within the limitations of the samples used. This study recommended that cohort studies are needed to inform the breastfeeding promotion programs in this country in KSA [16].

## II. Methods

### 2.1. Study setting and population:

This was a pilot cross-sectional conducted among Hail District, northwestern Saudi Arabia during the months of January to February 2012. The target group of the study was mothers at the city of Hail, who had at least one child aged five years or younger at the time of the study with emphasis on their experience with the last child.
The sample size of the study was 60 mothers within the period of fertility.

### 2.2. Study instrument

Questionnaire was used as screening tool used in the present study was prepared. Besides personal and socioeconomic data, the resulting self- administered questionnaire included questions addressing knowledge (importance of breast milk and its constituents, preference of breast milk over
artificial milk, general knowledge of breastfeeding benefits),questions addressing attitude (general attitude towards adoption of breast feeding, reasons for adopting breastfeeding, reasons for stopping breastfeeding, questions addressing practice (time of commencement of breastfeeding after delivery, duration of breastfeeding, difficulties in initiating breastfeeding, age at which breastfeeding was stopped and attending classes related to breastfeeding during pregnancy).

### 2.3. Ethical Approval:

The study received the approval of the Research Committee of Faculty of Education - Hail University for the Third Scientific Conference for Hail University Students.

### 2.4. Data collection

By the end of the study period sixty questionnaires were completed from mothers. Mother's knowledge, attitude and practice of breastfeeding were assessed from their responses.

Subjects included in the study must have given birth to at least one child in the five years prior to commence of the study. Responses of the participants to the questionnaire emphasized on their experience with their last child.

### 2.5. Analysis

Data were coded, validated and analyzed using SPSS PC + software package version 16. Descriptive statistical analyses were performed. Student *t*-test and analysis of variance was used as test of significance at 95% confidence interval.

## III. Results

A total of 60 questionnaires were distributed but responses varied between different questions .The mean age of the participants was 32.27 ± 5.42 years and their age ranged from 21 to 46 years.

### 3.1. Description of the participants

The mean and standard deviation (SD) of the number of persons per household were 5.94 ± 3.5 persons, family members ranged from 2- 23 members per household. Mean age of mothers who gave birth to the first baby was 23.21 ± 4.27, it ranges between 14 – 31 years (Table 1).
Other selected characteristics of the participants are shown in Table 1.

### 3.2. Knowledge

Table 2 reveals breastfeeding knowledge by Hail women.
Fifteen (31.2 %) of the participants reported that breast milk constituents is good for immunity protection against diseases, thirteen (27.1 %) reported its being sufficient in nutrients, whereas 8(16.7 % ) did not know any advantage.
Subjects who mentioned two and one benefits of breast feeding were 19(31.7 %) and 18(30 %), *respectively*. Eight (13.3%) did not mention any benefit, whereas no one mentioned more than four benefits (Table 2).
Importance of breast milk explained by medicals or paramedcials for participants in this study was 60%(n= 36), 40% (n=24) did not get any source of education about encouraging breast feeding.

### 3.3. Attitude

Attitude of participants towards breastfeeding is shown in Table 3.
General attitude towards adoption of breast feeding over bottle feeding was found positive within 53 mothers(88.3 %) while not always better among 7 mothers(11.7 %).
Reasons given by mothers for adoption of breast feeding vs. bottle feeding was 46.7 % because it is more healthy (n =14), 40.0 % because it strengthens child's immunity (n= 12), and 10.0 % (n= 3) for both reasons. Only one mother (3.3%) had adopted bottle feeding because there is not enough breast milk.

### 3.4. Practices

Table 4 shows breastfeeding practice by mothers in Hail district. Seventy percent of the mothers (n =42), had initiated breast feeding after birth while 30 % (n=18) did not. Reasons for stopping breast feeding mentioned by mothers were mainly mother's work22 (38.6 %), mother's disease 9 (15.8 %), whereas only 2 (3.5 %) because of child refusal.

Mean duration of breast feeding practice in months ranged between 0-24. Mean duration ±SD (range) was: for the currently breastfed baby 9.3 ±8.97 months; 8.84 ±8.49 (0.23 – 24) for the first baby,7.87 ± 8.08(0 – 24) for the second, 11.23 ± 8.87 (0.67 – 24) for the third, and 10.14 ± 9.26 (1 – 24) for the fourth baby.

### 3.5. Statistical analysis

Duration of breast feeding was significantly different for all babies than standard recommended. Mean duration of breast feeding was less in the first and second baby than for the third and fourth. The duration of breastfeeding was not significantly different between women who breastfed their first and fourth baby.

## IV. Discussion

Mothers knowledge was assessed by information given by mothers about breast milk constituents. The most important reason given by the participants for initiating breastfeeding was mentioned its being for immunity (31.2 %), followed by their knowledge about its being a sufficient in nutrients within27.1 %, whereas 8(16.7 % ) have not reported any knowledge about breast milk did not know any advantage. This finding is similar to the health care workers' study where the main reason was the child health (43.7%), followed by religious background (17.2%). Our result is different from other studies by Al-Binali[a](2012) and Al-

Binali[b](2012) where the most important reason given was their Islamic religious background 58.6 % and 56.6 %, respectively [17,18].

Although breastfeeding have several well known benefits [19], participants' general knowledge was limited since the majority mentioned only one benefit and no one mentioned more than four benefits of breast feeding. This might be attributed to limited sources of education received by participants.

The majority of Most of the mothers had positive attitude towards adoption of breast feeding (n= 53, 88.3 %), breastfeeding, most of mothers 96.7 % mentioned child's health related reasons for adoption of breast feeding vs. bottle feeding, whereas only 3.3 % preferred bottle feeding due to milk insufficiency. Despite this positive attitude towards breastfeeding, but gaps in knowledge and practices were noted. Our results are similar to other studies [20].

The breastfeeding initiation rate, defined as the proportion of infants who received any breastfeeding whatsoever within the first 48 hours, was found to be 70%, which is similar to the Eastern Mediterranean Regional Office of WHO (EMRO) which has reported high rates (>60%) of early breastfeeding initiation [21]. Our result is lower than Other Saudi Arabian studies have reported breastfeeding initiation rates ranging between 92 and 100% [17,18,22,23,24].

**Table 1 Selected characteristics of the participants**

| Variable | Number | Percent (%) |
|---|---|---|
| **Age range of participants** | 21 to 46 | |
| **Mean age of participants** | 32.27 ± 5.42 | |
| **Ages of mothers when gave birth to babies** | **Mean age(years)** | **Age range(years)** |
| - First baby | 23.21 ± 4.27 | 14 - 31 |
| - Second baby | 25.59 ± 4.88 | 16 - 36 |
| - Third baby | 27.44 ± 5.13 | 18 - 38 |
| - Fourth baby | 29.05 ± 5.56 | 20 - 40 |
| **Education Background** | | |
| - Illiterate | 5 | 8.6 |
| - Primary | 10 | 17.2 |
| - Intermediate | 4 | 6.9 |
| - Secondary | 14 | 24.1 |
| - University | 23 | 39.7 |
| - Postgraduate | 2 | 3.4 |
| **Husband Education Background** | | |
| - Illiterate | 3 | 5.1 |
| - Primary | 8 | 13.6 |
| - Intermediate | 7 | 11.9 |
| - Secondary | 15 | 25.4 |
| - University | 24 | 40.7 |
| - Postgraduate | 2 | 3.4 |
| **Mother's occupation** | | |
| - Government Employee | 33 | 56.9 |
| - Private Sector | 2 | 3.4 |
| - Others | 23 | 39.7 |
| **Husband's occupation** | | |
| - Government Employee | 38 | 66.7 |
| - Private Sector | 11 | 19.3 |
| - Others | 8 | 14 |
| **Economical Status** | | |
| - Low | 4 | 8.2 |
| - Medium | 27 | 55.1 |
| - High | 18 | 36.7 |
| **Importance of breast milk explained by medicals or paramedcials** | | |
| - Yes | 36 | 60 |
| - No | 24 | 40 |

**Table 2 Breastfeeding knowledge by mothers in Hail district**

| Variable | | Number | Percent (%) |
|---|---|---|---|
| **Knowing the advantages of breast milk constitution** | | | |
| - | Do not know | 8 | 16.7 |
| - | Immunity protection | 15 | 31.2 |
| - | Sufficient Nutrients | 13 | 27.1 |
| - | Others | 3 | 6.2 |
| - | Immunity protection+ Sufficient Nutrients | 6 | 12.5 |
| - | Healthy and protects immunity | 2 | 4.2 |
| - | Sufficient and protects immunity | 1 | 2.1 |
| **Knowing the benefits of breast feeding** | | | |
| - | Do not know | 8 | 13.3 |
| - | One benefit | 18 | 30 |
| - | Two benefits | 19 | 31.7 |
| - | Three benefits | 10 | 16.7 |
| - | Four benefits | 5 | 8.3 |
| - | > four benefits | 0 | 0 |

The breastfeeding was stopped at a mean age of 9.3 ±8.8 months. This is lower than figure reported by Al-Binali[a] (2012) [17], where breastfeeding was stopped at a mean age of 8.7 ± 7.8 months. Breastfeeding practice duration was longer in the third and fourth baby (11.23 ± 8.87 and 10.14 ± 9.26) compared to first and second baby (8.84 ±8.49 and 7.87 ± 8.08), *respectively*. This might be attributed to the 60% of the mothers being advised by health workers.

Continued professional support may be necessary to address these challenges and help mothers meet their desired breastfeeding duration.

The most common reason given for stopping breastfeeding practice was mother's work 22 (38.6 % of the participants),which is similar to a study which reported work-related problems within (38.5%). Our result is somewhat less than what was reported by the health care workers (45.7%) [25]. In fact 60.3 % of the subjects in this study were engaged in work.

The next most important factor for early cessation of breastfeeding was mother's disease 9 (15.8 %). Our finding agrees with a study by Odom et al. in 2012, their findings indicated that the major reasons why mothers stop breastfeeding before they desire included concerns about maternal or child health (infant nutrition, maternal illness or the need for medicine, and infant illness) and processes associated with breastfeeding (lactation and milk-pumping problems[26].

The effect of these two factors is most likely to be the reason that most of the participants shifted to formula feeding. This practice might be attributed to the willingness of the mother to adapt her baby to use formula from a young age due to her engagement in work where there is unsuitable environments for breastfeeding.

Mothers who stopped breastfeeding because of milk insufficiency were only 8.8 % which is different from a number of studies [17,22,27], where it was the main reason. Our finding was lower than other studies where up to (50%) or more reported that they perceived insufficient milk for their babies [28,29].

Whereas only 2 (3.5 %) because of child refusal. This result is lower than another study by Li et al. 2008 [30].

Only a small number of participants (16.7 %) ignored benefits of breast milk constituents. Lower figure than our study was reported by others studies in the country Al-Binali[a] (2012) and Al-Jassir et al. 2006 [17,31]. In contrary to our finding was higher figures reported by others studies [32-34].

Low rates of knowledge regarding the appropriate duration of breastfeeding are important factors in limiting breastfeeding prevalence. It also indicates the crucial role of health care providers and peer support to pregnant women and breastfeeding mothers. Such support, as well as face-to-face and pre- and postnatal classes, has been proven to be effective in reducing early cessation of breastfeeding and was a very effective way to promote breastfeeding prevalence [35,36].

In order to help mothers meet personal goals and expert recommendations for breastfeeding, pediatricians should educate themselves regarding predictors of and barriers to successful breastfeeding. Once these

**Table 3 Breastfeeding attitude by mothers in Hail district**

| Variable | Number | Percent (%) |
|---|---|---|
| **General attitude towards adoption of breast feeding over bottle feeding** | | |
| - Better | 53 | 88.3 |
| - Not always better | 7 | 11.7 |
| **Reasons for adoption of breast feeding vs bottle feeding** | | |
| - More Healthy | 14 | 46.7 |
| - Strengthens child's immunity | 12 | 40.0 |
| - Health and Strengthens immunity | 3 | 10.0 |
| **Reasons for adoption of bottle feeding vs breast feeding** | | |
| - Not enough breast milk | 1 | 3.3 |

**Table 4 Breastfeeding practice by mothers in Hail district**

| Variable | Number | Percent (%) |
|---|---|---|
| **Initiation of breast feeding** | | |
| - Yes | 42 | 70 |
| - No | 18 | 30 |
| **Reasons for stopping breast feeding** | | |
| - Mother's work | 22 | 38.6 |
| - Mother's disease | 9 | 15.8 |
| - Child's disease | 7 | 12.3 |
| - Insufficient milk | 5 | 8.8 |
| - Use of contraceptive pills | 2 | 3.5 |
| - New pregnancy | 4 | 7 |
| - Child refusal | 2 | 3.5 |
| - Mother's work and disease | 6 | 10.5 |
| **Breast feeding practice duration of different babies** | **Mean duration(days)** | **Duration range** |
| - Last baby | 9.3± 8.97 | 1-24 |
| - First baby | 8.84 ±8.49 | 0.23 - 24 |
| - Second baby | 7.87 ± 8.08 | 0 - 24 |
| - Third baby | 11.23 ± 8.87 | 0.67 - 24 |
| - Fourth baby | 10.14 ± 9.26 | 1 - 24 |

predictors and barriers have been identified, targeted anticipatory guidance can be provided to help mothers achieve breastfeeding success [37].

When working mothers possess certain personal characteristics and develop a strategic plan, breastfeeding is promoted. When social support is available and when support groups are utilized, lactation is also facilitated. Part-time work, lack of long mother-infant separations, supportive work environments and facilities, and child care options facilitate breastfeeding [38].

Health care providers can use the findings of this review to promote breastfeeding among working women by using tactics geared toward the mother, her social network, and the entire community. Adequate support for mothers requires greater attention to prevention and resolution of these very common problems. Physicians and their staff must be competent to do so. Primary care interventions can improve breastfeeding durations, but lactation problems must be routinely addressed at early hospital follow-up visits.

## V. Conclusion

This study revealed that adverse work related issues and maternal health were the main reasons for the very low rate of breastfeeding among women in Hail district, Saudi Arabia. Limited knowledge about breastfeeding and breast milk and unfavorable breastfeeding practices. Such findings should be useful to health professionals when attempting to help mothers overcome breastfeeding barriers and to health officials attempting to devise targeted breastfeeding interventions on those issues prominent for each infant age.

Intervention programs can be effective in promoting support for breastfeeding among health workers. Similar interventions may contribute to the overall effectiveness of breastfeeding promotion programs. Continued professional support may be necessary to address these challenges and help mothers meet their desired breastfeeding duration. Such findings, if addressed comprehensively by health care providers and decision-makers, will lead to improvement of child health in the study community.

This study can be a pilot study in the Hail district and should be a more comprehensive study should be done in the district. Breastfeeding should be re-assessed at a national level using a more appropriate research design like cohort studies which can analyze follow up data and present more accurate and valid results. This is necessary to inform the breastfeeding promotion programs in this country. It is hoped that this review will serve as baseline information for any upcoming longitudinal studies on breastfeeding in Saudi Arabia.

## Competing interests:

The author declares that he has no competing interests.

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