

# Breastfeeding Knowledge, attitude and practice among mothers attending primary health care centers in Taif city, 2018

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**Abstract:** Breastfeeding is the cornerstone of a healthy physical and mental life for children .Any lack of practice, attitude or knowledge in the mothers toward breastfeeding that means a defect in the child's physical and psychological life. Aim of this study to asses the knowledge, attitude and practice (KAP) regarding breastfeeding among mothers that attending PHCCs in Taif city.

**Methods:** A cross-sectional study self –administered questionnaire was conducted among mothers that attended PHCCs in taif city of October to November, 2018. Breastfeeding KAP of mothers who had at least one child aged two years or younger.

**Result:** A total of 383 of mothers 192 of the participants are between ages 26-35 years (50.1%), while the least age group is between 36-45 years containing 76 participants (19.8%). Also from the mothers education level were that university level is the most populated in the study with 149 participants (38.9%) while secondary school level holders are also more populated with 141 participants (36.8%) with the least educational level given as those not educated at all with 16 participants (4.2%). more. Also majority of the participants 39.2% breastfed between 1-3 month, 23.2% breastfed between birth and up to month. It was also deduced that 46.9% breastfed exclusively between 2-4 months while just 1% breastfed exclusively for 4 months only. breastfeeding among mothers 40.2% breastfed half an hour after delivery, 13.1% breastfed within 6 hours, 29.8% breastfed within 24 hours and 16.9% breastfed after first day of delivery. 32.1% were faced with difficulties during breastfeeding 67.9%

Were not faced with any difficulty .the majority of the participants, 74.9% agree that they will breastfed in they have another child in the future, while 25.1% disagree with this facts. **Conclusions:** this study revealed that breast milk insufficiency and child refusal related to main reason to stop breastfeeding before 2 years among mothers in Taif city, Saudi Arabia.

**Keywords:** breastfeeding, children health, WHO breast milk.

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## 1. INTRODUCTION

### Background:

Human milk is considered as the gold standard for infant feeding. Breastfeeding advantages extend beyond the properties of human milk itself. A complex of nutritional, environmental, socioeconomic, psychological as well as genetic interactions establish a massive list of benefits of breastfeeding to the health outcomes of the breastfed infant and to the breastfeeding mother

The American Academy of Pediatrics reaffirms its recommendation of exclusive breastfeeding for about 6 months, followed by continued breastfeeding as complementary foods are introduced, with continuation of breastfeeding for 1 year or longer as mutually desired by mother and infant. Breastfeeding given the documented short- and long-term medical and neurodevelopmental advantages, infant nutrition should be considered a public health issue and not only a lifestyle choice.

It is a baby's first vaccine and the best source of nutrition. It can bolster brain development. It can save 520,000 children's lives in the next 10 years. Breastfeeding also nurtures national economies. Increased rates of breastfeeding can improve countries prosperity by lowering healthcare costs and producing stronger, more able workforces. But breastfeeding is not just a one woman job. It requires encouragement and support from skilled counselors, family members, health care providers, employers, policymakers and others. To make the most of the value of breastfeeding for children and nations, governments and donors need to act together.

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 is associated with a reduced risk of otitis media, gastroenteritis, respiratory illness, sudden infant death syndrome, necrotizing enterocolitis, obesity, and hypertension. Breastfeeding is also associated with improved maternal outcomes, including a reduced risk of breast and ovarian cancer, type 2 diabetes, and postpartum depression. These reductions in acute and chronic illness help to decrease health care-related expenses and productive time lost from work.

The mean macronutrient composition of mature, term milk is estimated to be approximately 0.9 to 1.2 g/dL for protein, 3.2 to 3.6 g/dL for fat, and 6.7 to 7.8 g/dL for lactose. Energy estimates range from 65 to 70 kcal/dL, and are highly correlated with the fat content of human milk. Macronutrient composition differs between preterm and term milk, with preterm milk tending to be higher in protein and fat. The most abundant proteins are casein,  $\alpha$ -lactalbumin, lactoferrin, secretory immunoglobulin IgA, lysozyme, and serum albumin. Non-protein nitrogen-containing compounds, including urea, uric acid, creatine, creatinine, amino acids, and nucleotides, comprise ~25% of human milk nitrogen. The protein content of milk obtained from mothers who deliver preterm is significantly higher than that of mothers who deliver at term. Protein levels decrease in human milk over the first 4 to 6 weeks or more of life. Human milk fat is characterized by high contents of palmitic and oleic acids, the former heavily concentrated in the 2-position and the latter in the 1- and 3-positions of the triglycerides. Fat is the most highly variable macronutrient of milk. The principal sugar of human milk is the disaccharide lactose. The concentration of lactose in human milk is the least variable of the macronutrients, but higher concentrations of lactose are found in the milk of mothers producing higher quantities of milk. The other significant carbohydrates of human milk are the oligosaccharides, which comprise approximately 1 g/dL in human milk, depending on stage of lactation and maternal genetic factors.

Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. Virtually all mothers can breastfeed, provided they have accurate information, and the support of their family, the health care system and society at large. Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. Colostrum, the yellowish, sticky breast milk produced at the end of pregnancy

**EXCLUSIVE BREASTFEEDING:** the infant takes only breast milk and no additional food, water, or other fluids with the exception of medicines and vitamin or mineral drops.

**PARTIAL BREASTFEEDING or MIXED FEEDING:** the infant is given some breast feeds and some artificial feeds, either milk or cereal, or other food or water.

**BOTTLE-FEEDING:** the infant is feeding from a bottle, regardless of its contents, including expressed breast milk.

**ARTIFICIAL FEEDING:** the infant is given breast milk substitutes and not breastfeeding at all.

**COMPLEMENTARY FEEDING:** the process of giving an infant food in addition to breast milk or infant formula, when either becomes insufficient to satisfy the infant's nutritional requirements.

**Rational:**

- Breastfeeding is common topic discussed with family physicians in primary health care center, as has reported by many studies in past.
- The researcher conducting in this topic cause importance of breastfeeding.
- According to researcher job, she saw many women have beliefs toward breastfeeding in PHCC, thus there is great chance to screen the KAP of breastfeeding.
- She has personal interesting and self-experience she is mother for 2 babies and she faced a lots of difficulties.
- No previous study done in Taif city up to researcher knowledge, however, there is a lot of study conducted in other region of Saudi Arabia and worldwide.

**Aim:**

To describe the knowledge, attitude and practice regarding breastfeeding among mothers that attending PHCCs in Taif city.

**Specific Objectives:**

The objectives of this study to:

- Evaluate the knowledge, attitude and practice to breastfeeding.
- Determine the breastfeeding status for children less than 24 months.
- Identify socio-demographic factors that may associate and affecting breastfeeding among mothers attending primary health care centers in Taif city.

## 2. LITERTURE REVIEW

The research is design to collect data about knowledge attitude and practice among mothers attending primary care in Taif city

This part for overview of previous research done in same topic

In 2016, A cross sectional study was done by Norah faleh Al Mutairi et al to investigate knowledge and practice toward breastfeeding among women attending PHCCs in Riyadh. Data collected by standardized questionnaire. The study concluded that majority 57% of Saudi mothers had moderate level of knowledge on breastfeeding benefits and 19% had practiced exclusive BF

In 2015, A cross sectional study was done by Riyadh A Alzaheb to investigate factors influencing exclusive breastfeeding among mothers attending well baby clinics who had infant aged between 6 and 24 months in 5 PHCCs at Tabuk . Data collected by interviewed structured questionnaire. The study concluded exclusive breastfeeding was practiced by 31.4% of mothers for first 6 months of their infant's life, there were two factor are modifiable: working mothers and mother's awareness of exclusive breastfeeding duration.

In 2014, aljuaid et al conducted review of 17 A cross sectional study, only studies that reported breastfeeding practices, rates and indicators in Saudi Arabia were included. The self-administered questionnaire as a measurement tool was the predominant method of data collection. Infants' ages range from less than six months up to five years. Initiation rates were high (mostly above 90%), but a few studies reported low rates of timely initiation (within the first hour). The exclusive breastfeeding rate could not be accurately determined among studies due to the lack of clear definitions and the nature of study design.

In 2013, Hala Saied et.al al conducted across sectional study to investigate knowledge attitude and barriers among Saudi women toward breastfeeding in Riyadh. Participants were recruited from shopping mall, women's cafeterias and restaurant. Mothers were interviewed face to face after agreeing to participate in the study by using 4 set of questionnaire. In this study, the Saudi mothers have good knowledge about the importance of breastfeeding and there was high significant correlation between mother's knowledge and their attitude.

In March 2011to February 2013, A cross sectional study done by Mashael alShebly and Badr Sobaih to investigate attitude of Saudi mothers who attended OB\Gyn department in King Khalid University Hospital at KSU toward breastfeeding in Riyadh. Data collected by using questionnaire that conducted over 24months aged baby. 30% of mothers with higher income and higher socio-economic class tend to have less compliance with breastfeeding. Exclusive breastfeeding in the first 6 months lag far behind the WHO recommendation.

In 2012, a cohort study was done by Manal I Hanafi, et al to investigate impaction of health education on knowledge attitude and practice of breastfeeding among women attending PHCCs in almadinahalmunawwarah. Data collected by antenatal questionnaire was filled in initially by both group and filled again after health education only by intervention group while postnatal questionnaires were filled by both groups. The health education improved knowledge attitude and practice of breastfeeding

In 2011, a cross-sectional study was done by Abdel-Hady El-Gilany , et al to investigate exclusive breast feeding among mothers attending for vaccinating their infants at the age of 6 months at primary healthcare centers in Al Hassa at Saudi

Arabia, mothers were interviewed. Only 24.4% of infants were exclusively breastfed at the age of 6 months. Mothers at risk of not breastfeeding exclusively should be the target of breastfeeding promotion during prenatal care. Working mothers should continue breastfeeding after returning to work.

In 2011, a cross sectional study design conducted in abha female educational district, southwestern Saudi Arabia done by Ali AlBinali to evaluate knowledge, attitude and practice among school teachers who had child aged five years or less. The study was assessed by self-administered questionnaire. The study revealed breast milk insufficiency and work related issue were the main reasons for low rate of exclusive breastfeeding.

in 2009, alwelaie YA , et al conducted in Riyadh Saudi Arabia A cross sectional study to investigate breastfeeding knowledge and attitude among saudi women who attending ANC in 3 major hospitals .An Arabic questionnaire was generated and completed by women .they were found that breastfeeding during first few months of life not optimal, and percentage of exclusive breastfeeding was low despite high level of their education and mixed feeding was the predominant mode of feeding.

In Riyadh 2005, Across sectional study done by Fouzia A. Al-Hreashy and et al investigate the pattern of breastfeeding practice during first 6 months of life at king Abdulaziz medical city among mothers attended PHCCs and well-baby clinic in the hospital . Mothers were interviewed to collect information.The breastfeeding initiation among the sample was 95% and the percent of exclusive breastfeeding was 1.7%.

In 1998, A cross section study done by mohammad H. Qadri and et al to investigate the practice of mothers that attending PHCCs who had child less than 24months of age toward breastfeeding in Dammam area of Saudi Arabia .pre-design and pre-tested Arabic questionnaire was used to collect the information on age, sex, nationality, education of mothers and feeding practice of the preceding 24 hours.It was recognize the low level of exclusive breastfeeding among children under 4months of age it was 33%. The reasons given by the mothers for failure to breastfeed were insufficient milk, advice, example of other mothers and formula milk advertisement.

In 2017, study done by Esha Sharma and ShanthaSeelan G\* to investigate the cross sectional knowledge of breastfeeding among primigravida mothers. Data was collected by self-structural valid and reliable questionnaire for primigravida mothers attending antenatal OPD of Govt. Gandhi Nagar Hospital, Jammu. The collected data was tabulated, analyzed and interpreted by using descriptive and inferential statistics. The study concluded that most of mothers had average knowledge regarding breastfeeding.

IN 2015, Kang NM. And et al conducted A cross sectional study to investigate association of BF Knowledge, Attitude and interest with breastfeeding duration among Korean mothers who used internet. Data collected by using Web base Self-administered questionnaire. Higher KAI toward BF were associated with longer duration of BF in Korean mothers

In 2014, a cross-sectional study was done by Rajesh C. Sambutwadand et al to investigate knowledge among ANC Women in Rural Field in India toward breastfeeding .data collected by pre-designed, pre-tested, self-administered questionnaire in local language Marathi. The study shows that there is inadequate knowledge regarding breastfeeding amongst ANC women, that measured by scoring mechanism

In 2014, Across sectional study done by Eman S. Mohammed and et al to investigate KAP of breastfeeding and Weaning among mothers of children up to 2 years old in rural area in Elmina Governorate ,Egypt. Data were collected by using designed well-structured questionnaire completed by interviews the mothers. Exclusive breastfeeding was found to be associated with mothers education ( $P<0.0001$ ).

In 2013, A cross sectional study done by Chidozie E Mbadaand et al to evaluate Knowledge attitude and Technique of breastfeeding among Nigerian mothers from semi urban community. Data collected by using self-administered questionnaire. The study shows that there were good knowledge and positive attitude toward BF, most of mothers practiced BF posture, preferred sitting on chair to breastfeed.

In 2011, Wren H., Chambers L. conducted cross sectional study among mothers in Cambodia to investigate breastfeeding Knowledge, Attitude and Practice. Data collected by using a structured questionnaire that administered to women with child less than 60 months of age .25% women initiated BF within the 1<sup>st</sup> hour post-delivery and 53% breastfed exclusively for 6 months.

In 2003, A cross sectional study was done by khassawneh M and et al to investigate knowledge attitude and practice toward BF among mothers with children aged between 6 months and 3 years from 5 different villages in north of Jordan . data collected by interviewed questionnaire, concluded high proportion of Jordanian women did breastfeed for more than one year and working mothers and those who delivered by CS were less to breastfeed

### 3. METHODOLOGY

#### Study area/setting:

The study conducting in taif which is a city in Makkah Province of Saudi Arabia at an elevation of 1,879 m (6,165 ft) on the slopes of Sarawat Mountains (Al-Sarawat Mountains). It has a population of 1,281,613 people in 2010-2011 and is the unofficial summer capital. The city is the center of an agricultural area known for its grapes, pomegranate, figs, roses and honey. There are 125 primary health care centers belonging to ministry of health, 19 of them located inside taif city .This study will be carried out in all PHC inside Taif city belonging to MOH.

#### Study period:

The field work of this study will be conducted during 28 Oct- 25 Nov 2018.

#### Study design:

Analytical cross sectional study design was carried out

#### Study population:

All mothers in reproductive age(18-45) those with children below age 2 years are attending in primary health center for any purposes such as vaccination and well-baby clinic and antenatal care , prenatal care and \or family planning .

#### Inclusion criteria:

The participants for this study are

- Mothers at aged from 18 to 45 years
- Mother attending with her child 24 months of age and less.
- Arabic speaker and writer

#### Exclusion criteria:

- Relative who brings baby to PHC Other than mothers.
- Mothers below 18 and older than 45 years.
- Mothers who her child with congenital malformation
- Mothers have children > 24 months
- Mothers who can't read and comprehend Arabic language.

#### Sample size:

The number of mothers attending PHCC in Taif is 105172. its anticipate that 50% of mothers in study is exclusive breastfeeding with absolute precision of 5% at 95% confidence level, the sample size was calculated by using Epi Info statistical program (software). the minimum sample size consisted of 383 mothers.

#### Sampling technique:

19 PHCCs located inside Taif city was divided to four sector according to geographical distribution stratified sampling technique had been used to select one PHC from each sector ,participants inside these PHCCs was selected by using simple random method. The data were collected over 2 months period.

#### Data collection tools:

Data was collected by using well-structured and standardized self-administered questionnaire developed by Doctor Ali with minimal change in socio-demographic section for same purpose of our study with permission from author

The questionnaire was divided into three parts :the first part consisted of demographic data: mother's age, last child age, the number of children, income, employment status, education of mother, type of delivery, husband work ,entertainment way ,housemaid, living with husband, living with others and receiving health education about BF. The second part was consisted of the questions regarding the type of BF for the last child, reasons of continuity, and barriers for BF. The final part consisted of question regarding knowledge and attitude and practice: questions addressing knowledge (importance of

colostrum, the average number of feeds the child should receive per day, up to what age the child should receive only breast milk and what age the mother should start supplementary food), questions addressing attitude (reasons for adopting breastfeeding, reasons for stopping breastfeeding, intention to breastfeed future children, intention to participate in classes related to breastfeeding in future pregnancy and the participant self-image) and questions addressing practice (time of commencement of breastfeeding after delivery, duration of breastfeeding, difficulties in initiating breastfeeding, age of starting formula, age at which breastfeeding was stopped and attending classes related to breastfeeding during pregnancy)

The questionnaire is in both language Arabic and English.

#### **Data collection method:**

The Arabic questionnaire was distributed to mothers hand by hand at waiting area in PHCs. if mother have more than 1 child below 2 years of age, she was fill questionnaire for youngest child.

#### **Study variables:**

Dependent variables: knowledge, attitude and practice of breastfeeding

Independent variables: age of mothers, education level of mother, income of family, numbers of family, numbers of kids, employment status, husband work, house maid , house status and entertainment way .

#### **Ethical approval:**

- The study was received the approval of the regional research and ethics committee at taif
- Permission of director of primary health care centers in taif was obtained
- Approval of program of family medicine, MOH at taif was obtained

#### **Pilot study:**

The researcher was used small group of breastfeeding mothers (10% equal 30 mothers) from the study sample for a pilot study. The questionnaire was distributed, completed and collected from a pilot test group of mothers (not involve into full study). Based on the pilot study feedback and responses to the questionnaire, the researcher made changes in the data collection tools as indicated.

#### **Data entry and analysis:**

The obtained data were coded and analyzed by using the statistical package for social sciences (SPSS) version 24. Statistics including frequency for qualitative data, standard deviation, means for quantitative data. Statistical significant level is consider when p value is less than 0.05.

#### **Budget:**

Self-funded

## **4. RESULT**

### **Demographic characteristics**

This study on the knowledge, attitude and practices of breastfeeding includes a survey of 383 breastfeeding mothers. Table 1 summarizes the basic demographics statistics in which 192 of the participants are between ages 26-35 years. (50.1%) while the least age group is between 36-45 years containing 76 participants (19.8%). Also from the mothers education level we can deduce that university level is the most populated in the study with 149 participants (38.9%) while secondary school level holders are also more populated with 141 participants (36.8%) with the least educational level given as those not educated at all with 16 participants (4.2%). The income level shows that 131 of the participants (34.2%) earns less than 5000 SR while 169 earn (44.1%) earn between 5000 to 10000 SR, 83 participants (21.7%) earns more than 10000 SR. The number of family composition also shows that 191 participants (50.1%) comes from a family made up from 2 to 5 while 159 participant (41.5%) comes from a family between 6 to 10 while 32 participant (8.4%) comes from a family more than 10. It was deduced that 212 of the participant (13.3%) have between 2 to 4 children while 143 of them (37.3%) have between 5-7 children while lastly just 28 of the participants (7.3%) have more than 7 children. The employment status shows that majority are unemployed around 196 participants amounting to 51.2% while 13.3% work in the private sector the remaining 35.5% works with the Saudi Arabia government. Furthermore 36.8% of the

participants do have housemaids while the remaining 63.2% do not use housemaids at home. 57.4% of the participants live in a rented house while 42.6% live in their owned house. 25.5% uses television only as a means of entertaining themselves while 38.7% uses social media as a means of entertainment, the remaining 35.8% uses both combination as a means of entertaining themselves. While lastly 82.0% of the participants live with their husband while 18.0% were not living with their husbands.

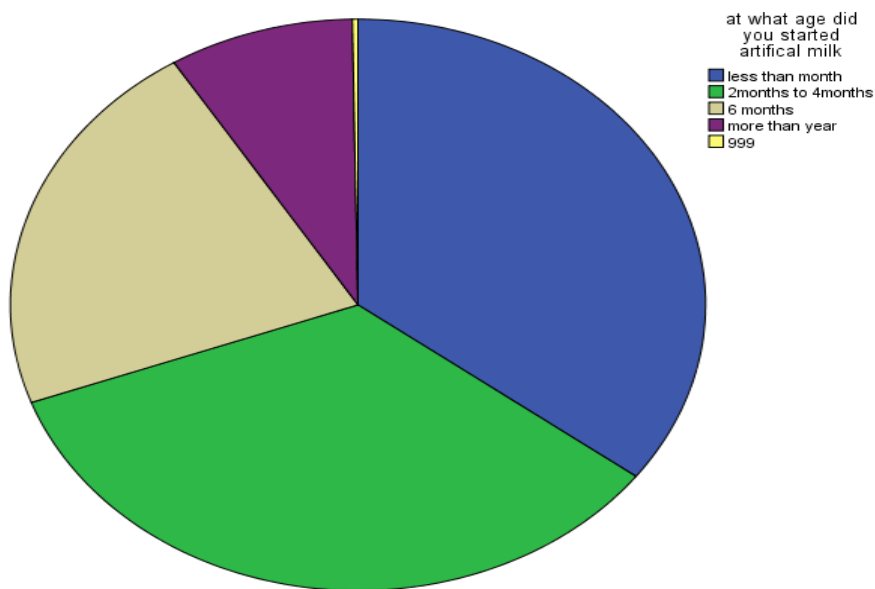
**Table 1: Demographics of participants (n=383)**

	Numbers	%
<b>Age of mothers (years)</b>		
18-25	115	30.0
26-35	192	50.1
36-45	76	19.8
<b>Mothers Educational level</b>		
Not Educated	16	4.2
Elementary	20	5.2
Intermediate	32	8.4
Secondary	141	36.8
University	149	38.9
Post graduate study	25	6.5
<b>Income of family</b>		
<5000 (SR)	131	34.2
5000 - 10000 (SR)	169	44.1
> 10000 (SR)	83	21.7
<b>Number of family member</b>		
2-5	192	50.1
6 - 10	159	41.5
>10	32	8.4
<b>Numbers of Kids</b>		
2 – 4	212	55.4
5-7	143	37.3
>7	28	7.3
<b>Employment Status</b>		
Work in private sector	51	13.3
Work in government sector	136	35.5
Non-employee	196	51.2
<b>Do you have housemaid</b>		
Yes	141	36.8
No	241	63.2
<b>House status</b>		
Owned	163	42.6
Rented	220	57.4
<b>Recreation Facility</b>		
Television	98	25.5
Social media	148	38.7
Television with social media	137	35.8
<b>Are you living with your husband</b>		
Yes	314	82.0
No	69	18.0

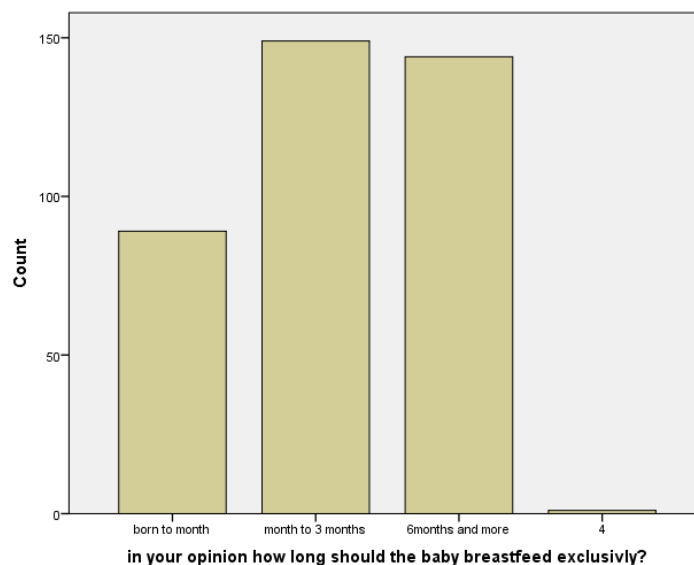
**Knowledge of breastfeeding.**

Table 2 below shows that 35.2% of the participants enter complimentary food at age 1 month and less, while 34.2% enters at age 2-4 month, 21.7% enters at age 6 month while the remaining 8.8% enters at a year and more. Also majority of the participants 39.2% breastfed between 1-3 month, 23.2% breastfed between birth and up to month. It was also deduced that 46.9% breastfed exclusively between 2-4 months while just 1% breastfed exclusively for 4 months only. Asking about the opinion of the mothers regarding the number of times babies should be breastfed per day 31.3% breastfed more than 8 times, while 20.6% breastfed exactly 8 times, 16.7% cannot recollect the number of times. Lastly 57.7% says it is good mothers should be given clostrum immediately after delivery, 15.9% oppose this fact while 4.9% were neutral about this stand on clostrum, 21.4% says it may harm the babies.

Also from table 2 we determine if the demographical factors listed above were significant or not at 0.05 level of significance. It was deduced that age to enter complimentary food, how long you should breastfed without anything and opinion of mothers about clostrum immediately after delivery were statistically significant with their p-value lesser than 0.05 while age to breastfeed exclusively and opinion of mothers of frequency of breastfeeding per day were not statistically significant with their p-value greater than 0.05 level of significance.



**Fig 1: Pie chart on age to breastfeed exclusively**



**Fig 2: Bar chart on the opinion of how long should baby breastfeed exclusively.**



**Table 2: Demographics factors associated with knowledge of breastfeeding.**

	Breastfeeding Knowledge		$\chi^2$ (p-value)
	Insufficient N=198 N (%)	Sufficient N=185 N (%)	
<b>Age to enter complimentary food.</b> Less than a month(n=135) 2- 4 month (n=131) 6 month(n=83) More than a year (n=34)	<b>48 (35.5)</b> <b>89 (67.9)</b> <b>51 (61.4)</b> <b>20 (58.8)</b>	<b>87 (64.4)</b> <b>42 (32.1)</b> <b>32 (38.6)</b> <b>14 (41.2)</b>	<b>10.96</b> <b>(0.0129)</b>
<b>Age to breastfeed exclusively.</b> Birth- 1month (n=89) 1-3 month (n=150) 6 month and more (n=144)	<b>65 (73.1)</b> <b>95 (63.3)</b> <b>65 (45.1)</b>	<b>24 (26.9)</b> <b>55 (36.7)</b> <b>79 (54.9)</b>	<b>2.35</b> <b>0.356</b>
<b>How long you should breastfed without anything.</b> Birth-1 month (n=105) 2-4 month (n=180) 4 month only (n=4) 6 month and more (n=118)	<b>63 (60.0)</b> <b>75 (41.6)</b> <b>3 (75.0)</b> <b>65 (55.1)</b>	<b>42 (40.0)</b> <b>105 (58.4)</b> <b>1 (25.0)</b> <b>53 (44.9)</b>	<b>13.63</b> <b>(0.001)</b>
<b>Opinion of mothers of frequency of breastfeeding per day.</b> 8 times (n=79) More than 8 times (n=120) As needed (n=120) I don't know (n=64)	<b>65 (82.2)</b> <b>63 (52.5)</b> <b>42 (35.0)</b> <b>26 (40.6)</b>	<b>14 (17.8)</b> <b>57 (47.5)</b> <b>78 (65.0)</b> <b>38 (59.4)</b>	<b>1.68</b> <b>(0.456)</b>
<b>Opinion of mothers about clostrum immediately after delivery.</b> Good (n=221) Not good (n=61) Don't know (n=19) May harm the baby (n=82)	<b>128 (57.9)</b> <b>39 (63.9)</b> <b>13 (68.4)</b> <b>52 (63.4)</b>	<b>93 (42.1)</b> <b>22 (36.1)</b> <b>6 (31.6)</b> <b>30 (36.6)</b>	<b>19.58</b> <b>(0.000)</b>

\* p-value of Fischer exact test

**Practice regarding breastfeeding**

The table 3 below shows the demographic factors that may induce practice of breastfeeding among mothers 40.2% breastfed half an hour after delivery, 13.1% breastfed within 6 hours, 29.8% breastfed within 24 hours and 16.9% breastfed after first day of delivery. 32.1% were faced with difficulties during breastfeeding 67.9% were not faced with any difficulty. Also majority of the participants gave their baby bottle feeding 90.1% and the remaining 9.9% did not. 35.2% started breastfeeding between 2-4 months, 21.7% started exactly 6 month, while 8.8% started at a year and more. 42.3% of the participants were encourage by physician to start bottle milk, 17.2% were encourage by nurses, 18.5% by pharmacist, 12.3% by pharmacist and neighbor, 9.7% by doctor and nurses. Moreover 30.8% of the participants stop breastfeeding completely between birth and 2 months, 29.2% between 3-6 month, 15.4% between 7 month and 1 year while 21.9% stop at a year and more. Lastly 53.3% received incentive on child health to breastfeeding, 16.9% received on religion, 12.7% received from religion and child health, the remaining 16.9% did not known.

To test for the significant demographical factors associated with practice regarding breastfeeding, when do you start breastfeeding, do you give your baby bottle feeding, who did encourage you to start bottle milk and incentive to breastfeeding are statistically significant factors with p-value lesser than 0.05 level of significance. While are you faced with difficulties during breastfeeding, time to start bottle feeding and time to stop breastfeeding completely are not significant with their p-values greater than 0.05 level of significance.

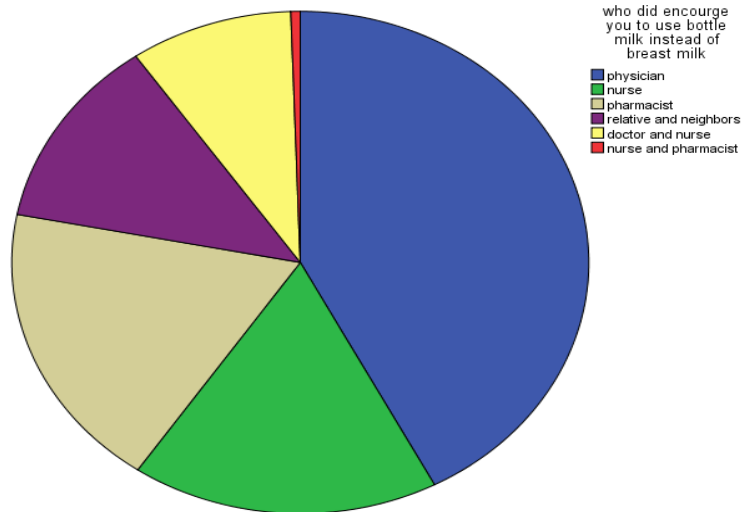


Fig 3: Pie chart on who did encourage you to use bottle milk instead of breast milk

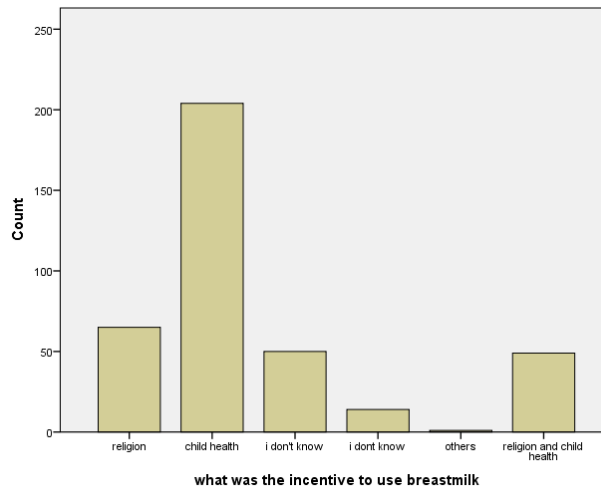


Fig 4: Bar chart on the incentive receive to use breast milk

Table 3: Demographics factors associated with practices of breastfeeding.

	Practice regarding breastfeeding		$\chi^2$ (p-value)
	Inadequate N=225 N (%)	Adequate N=158 N (%)	
<b>When do you start breastfeeding?</b>			
½ hour after delivery (n=154)			<b>10.96</b> <b>(0.0129)</b>
Within 6 hours (n=50)	<b>78 (51.6)</b>	<b>76 (49.4)</b>	
Within 24 hours (n=114)	<b>29 (58.0)</b>	<b>21 (42.0)</b>	
After first day of delivery (n=65)	<b>51 (44.7)</b>	<b>63 (55.3)</b>	
	<b>30 (46.2)</b>	<b>35 (53.8)</b>	
<b>Are you faced with difficulties during breastfeeding?</b>			
Yes (n=123)	<b>85 (69.1)</b>	<b>38 (30.9)</b>	<b>2.35</b> <b>0.356</b>
No (n=260)	<b>95 (36.5)</b>	<b>165 (63.5)</b>	
<b>Do you give your baby bottle feeding.</b>			
Yes (n=347)	<b>263 (75.8)</b>	<b>84 (24.2)</b>	<b>13.63</b> <b>(0.001)</b>
No (n=46)	<b>35 (76.1)</b>	<b>11 (23.9)</b>	

<b>Time to start bottle feeding.</b>			
Less than a month (n=135)	65 (48.1)	70 (51.9)	
2-4 months (n=131)	63 (62.4)	68 (51.9)	
6 month (n=83)	42 (50.6)	41 (49.4)	1.68
More than a year (n=34)	20 (58.8)	14 (41.2)	(0.456)
<b>Who did encourage you to start bottle milk?</b>			
physician (n=162)	58 (35.8)	104 (64.2)	
Nurse (n=66)	35 (53.1)	31 (46.9)	19.58
Pharmacist (n=71)	34 (47.9)	37 (52.1)	(0.000)
Relative and Neighbor (n=47)	17 (36.2)	30 (63.8)	
Doctor and nurse (n=37)	20 (54.1)	17 (45.9)	
Nurse and pharmacist (n=2)	1 (50.0)	1 (50.0)	
<b>When are you to stop breastfeeding completely?</b>			
Birth-2 month (n=118)	43 (36.4)	75 (63.6)	
3-6 month (n=112)	49 (43.7)	63 (56.3)	
7 month - 1year (n=59)	14 (23.7)	45 (76.3)	
1 year and more (n=84)	32 (38.1)	52 (61.9)	3.25
			(0.236)
<b>What is your incentive to breastfeeding?</b>			
Religion (n=65)	30 (46.2)	35 (53.8)	
Child health (n=204)	120 (58.8)	84 (41.2)	
I don't know (n=65)	25 (62.5)	40 (37.5)	17.59
Religion and child health (n=49)	24 (49.0)	25 (51.0)	(0.000)

\* p-value of Fischer exact test

#### How long should you breastfeed with additive

From table 4 below we expressed the percentage of time it takes mothers to breastfeed with additives. It was discovered that 42.3% breastfeed for 6 month, 27.2% breastfeed for 4 months, while 14.1% breastfeed for 2 months, the remaining 16.4% breastfeed for more than 1 year and more.

Table 5 shows the association between the demographics factors associated with how long mothers should breastfeed with additives, firstly age of mothers was found to be statistical significant with p-value=0.024<0.05, the income of the family of which 34.2% earn less than 5000 SR and 21.7 earn more than 1000 SR was found to be statistical significant also with p-value=0.001<0.05. Number of kids another demographical factors with majority of the family 55.4% having kids between 2 to 4 and just 7.3% have more than 7 kids in their family was found to be statistical significant also with p-value=0.0012<0.05 while majority of the participants are unemployed 51.2% , just 13.3% work in a private sector and 35.5% work in a government sector however their employment status was found to be statistical significant with p-value =0.001<0.05. However other considered demographical factors (mothers educational level and number of family members) were not statistical associated towards the time mothers should breastfeed babies with additives.

**Table 4: How long should mother's breastfeed with additives.**

Response	Frequency	Percentage
2 month	54	14.1
4 month	104	27.2
6 month	162	42.3
1 year and more	63	16.4

Table 5: Demographics factors associated with how long mothers should breastfeed with additives.

	How long you should breastfeed with additive.				$\chi^2$ (p-value)
	2 month N=54 N (%)	4 month N=104 N (%)	6 month N=162 N (%)	1 year and more N=63 N (%)	
<b>Age of mothers.</b>					
18-25 (n=115)	25 (21.7)	39 (33.9)	40 (34.8)	11 (9.6)	12.39 (0.024)
26-35 (n=192)	30 (15.6)	45 (23.4)	35 (18.2)	82 (42.7)	
36-45 (n=76)	15 (19.7)	20 (26.3)	12 (15.8)	29 (38.2)	
<b>Mothers Educational level</b>					
Not Educated (n=16)					3.06 (0.956)
Elementary (n=20)	2 (12.5)	6 (37.5)	4 (25.0)	4 (25.0)	
Intermediate (n=32)	5 (25.0)	7 (35.0)	4 (20.0)	4 (20.0)	
Secondary (n=141)	7 (21.9)	8 (25.0)	10 (31.3)	7 (21.9)	
University (n=149)	26 (18.4)	32 (22.7)	44 (31.2)	39 (27.7)	
Post graduate study (n=25)	32 (21.5)	45 (30.2)	55 (36.9)	17 (11.4)	
<b>Income of family</b>					
<5000 (SR) (n=131)	31 (23.7)	26 (19.8)	35 (26.7)	39 (29.8)	17.86 (0.001)
5000 -10000 (n=169)	45 (26.6)	28 (16.5)	49 (29.0)	47 (27.8)	
> 10000 (SR) (n=83)	20 (24.1)	23 (27.7)	30 (36.1)	10 (12.0)	
<b>Number of family member</b>					
2-5 (n=192)					3.25 (0.912)
6 -10 (n=159)	36 (18.8)	38 (19.8)	29 (15.1)	89 (46.4)	
>10 (n=32)	45 (28.3)	52 (32.7)	23 (14.5)	39 (24.5)	
<b>Numbers of Kids</b>					
2 -4 (n=212)	56 (26.4)	69 (32.5)	59 (27.8)	28 (13.2)	14.36 (0.0012)
5-7 (n=143)	47 (32.9)	28 (19.6)	24 (16.8)	44 (30.8)	
>7 (n=28)	10 (35.7)	2 (7.1)	8 (28.6)	8 (28.6)	
<b>Employment Status</b>					
Work in private sector (n=51)					16.23 (0.001)
Work in government sector (n=136)	21 (41.2)	15 (29.4)	10 (19.6)	5 (9.8)	
Non employee (n=196)	46 (33.8)	37 (27.2)	22 (16.2)	31 (22.8)	
	67 (34.2)	29 (14.8)	23 (11.7)	77 (39.2)	

\* p-value of Fischer exact test

3.4: How long should you breastfeed without additives.

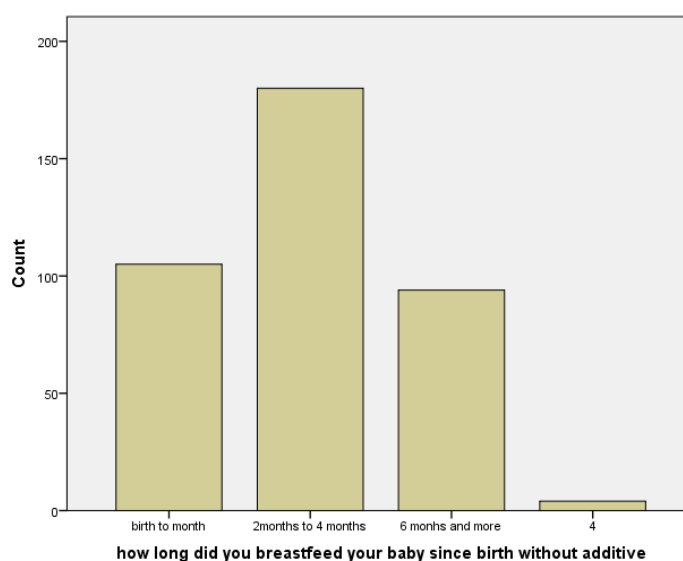


Fig 5: Duration of breastfeeding without additive

The table 6 below shows the frequency and percentage ratio of how long mothers should breastfeed without additives. It was deduced 47% of the mothers does this within 2 to 4 months while 27.4% does breastfeed without additives from birth to month, 24.5% does this between 6 month and more and just 1% breastfeed without additives in 4 months only.

**Table 6: How long should mother’s breastfeed without additives.**

Response	Frequency	Percentage
Birth to month	105	27.4
2 month to 4 months	180	47.0
4 Month only	4	1.0
6 month and more	94	24.5

In table 7 below, age of mothers was found to be significant with  $p=0.01 < 0.05$ , majority of the mothers (50.1%) falls in the age group 26-35years, 30.1% falls in the age group 18-25years while the remaining 19.8% falls in the age group 36-45years. The number of kids was also found to be a statistical significant demographical factors with  $p=0.034 < 0.05$  while lastly employment status in which majority of the participants 51.2% are non-employed was also found to be significant with  $p=0.011 < 0.05$ . Other demographical factors (mothers educational level, income of family and number of family member) were not statistical significant associated towards the time frame mothers should breastfeed babies without additives.

**Table 7: Demographics factors associated with how long mothers should breastfeed Without additives.**

	How long you should breastfeed without additive.				$\chi^2$ (p-value)
	Birth to month N=54 N (%)	2 to 4 month N=104 N (%)	4 month only N=162 N (%)	6 month and more N=63 N (%)	
<b>Age of mothers.</b>					
18-25 (n=115)	32 (27.8)	38 (33.0)	36 (31.3)	9 (7.8)	<b>18.20</b> <b>(0.001)</b>
26-35 (n=192)	47 (24.5)	29(15.1)	39 (18.2)	77 (40.1)	
36-45 (n=76)	25 (32.9)	16 (21.1)	19(15.8)	16 (21.1)	
<b>Mothers Educational level</b>					
Not Educated (n=16)	4 (25.0)	3 (18.8)	4 (25.0)	5 (31.2)	<b>2.98</b> <b>(0.989)</b>
Elementary (n=20)	7 (35.0)	3 (15.0)	6 (30.0)	4 (20.0)	
Intermediate (n=32)	9 (28.1)	5 (15.6)	8 (25.0)	10 (31.3)	
Secondary (n=141)	20 (14.2)	39 (27.7)	49 (34.8)	33 (23.4)	
University (n=149)	25 (16.8)	58 (38.9)	46 (30.9)	20 (13.4)	
Post graduate study (n=25)	3 (12.0)	9 (36.0)	6 (24.0)	7 (28.0)	
<b>Income of family</b>					
<5000 (SR) (n=131)	46 (35.1)	39 (29.8)	28 (21.4)	18 (13.7)	<b>4.59</b> <b>(0.852)</b>
5000 -10000 (n=169)	29 (17.2)	59(34.9)	42 (24.9)	39 (23.1)	
> 10000 (SR) (n=83)	32 (38.6)	18 (21.7)	29 (34.9)	4 (4.8)	
<b>Number of family member</b>					
2-5 (n=192)	40 (20.8)	28 (14.6)	36 (18.8)	88 (45.8)	<b>6.05</b> <b>(0.723)</b>
6 -10 (n=159)	39 (24.5)	43 (27.0)	33 (20.8)	44 (27.7)	
>10 (n=32)	10 (31.3)	7 (21.9)	8 (25.0)	7 (21.9)	
<b>Numbers of Kids</b>					
2 –4 (n=212)	45 (21.2)	60 (28.3)	49 (23.1)	58 (43.9)	<b>12.19</b> <b>(0.034)</b>
5-7 (n=143)	36 (25.2)	35 (24.5)	29 (20.3)	43 (30.1)	
>7 (n=28)	9 (32.1)	5 (17.9)	7 (25.0)	7 (25.0)	
<b>Employment Status</b>					
Work in private sector (n=51)					<b>13.37</b> <b>(0.011)</b>
Work in government sector (n=136)	11 (21.6)	21 (41.2)	12 (23.5)	7 (13.7)	
Non employee (n=196)	53 (38.9)	42 (30.9)	31 (22.8)	10 (7.4)	
	49 (25.0)	36 (18.4)	30 (15.3)	81 (41.3)	

\* p-value of Fischer exact test

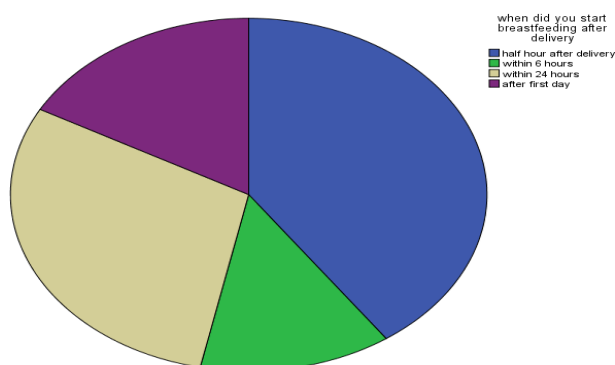
### 3.5 When did you start breastfeeding after delivery.

From table 8 below it was discovered that majority of the mothers are likely to breastfeed half an hour immediately after delivery with (40.2%) or within 24 hours (29.8%) whereas just 17% breastfeed after first day of delivery only while just 13.1% breastfeed within 6 hours.

Also in table 9, it is obvious that mothers educational level in which 4.2% were illiterate and 38.9% were university graduate who started breastfeeding after delivery was statistically significant with  $p\text{-value}=0.019<0.05$ , the income of the family of which 34.2% earn less than 5000 SR and 21.7% earn more than 1000 SR was found to be statistical significant also with  $p\text{-value}=0.001<0.05$ . Number of kids another demographical factors with majority of the family 55.4% having kids between 2 to 4 and just 7.3% have more than 7 kids in their family was found to be statistical significant also with  $p\text{-value}=0.012<0.05$  while majority of the participants are unemployed 51.2% , just 13.3% work in a private sector and 35.5% work in a government sector however their employment status was found to be statistical significant with  $p\text{-value}=0.014<0.05$ . However other considered demographical factors (age of mothers and number of family members) were not statistical associated towards the time babies should start breast feeding after delivery.

**Table 8: When should mothers start breastfeeding after delivery.**

Response	Frequency	Percentage
Half hour after delivery	154	40.2
Within 6 hours	50	13.1
Within 24 hours	114	29.8
After first day of delivery	65	17.0



**Fig 6: Pie chart on the time to start breastfeeding**

**Table 9: Demographics factors associated when should mothers start breastfeeding After delivery.**

	When did you start breastfeeding after delivery.				$\chi^2$ (p-value)
	½ hour after delivery N=54 N (%)	Within 6 hours N=104 N (%)	Within 24 hours N=162 N (%)	After first day of delivery N=63 N (%)	
<b>Age of mothers.</b>					
18-25 (n=115)	23 (20.0)	49 (42.6)	33 (28.7)	10 (8.7)	4.23 (0.235)
26-35 (n=192)	49 (25.5)	68(35.4)	55 (28.6)	20 (10.4)	
36-45 (n=76)	28 (36.8)	19 (25.0)	11(14.5)	18 (23.7)	
<b>Mothers Educational level</b>					
Not Educated (n=16)					16.58 (0.019)
Elementary (n=20)	6 (37.5)	2 (12.5)	4 (25.0)	4 (25.0)	
Intermediate (n=32)	6 (30.0)	4 (20.0)	3 (15.0)	7 (35.0)	
Secondary (n=141)	8 (25.0)	6 (18.8)	9 (28.1)	9 (28.1)	
University (n=149)	25 (17.7)	38 (26.9)	59 (41.8)	19 (13.5)	
Post graduate study (n=25)	39 (26.2)	68 (45.6)	35 (23.5)	7 (4.7)	
	4 (16.0)	7 (28.0)	8 (32.0)	6 (24.0)	

<b>Income of family</b>					
<5000 (SR) (n=131)	38 (29.0)	44 (33.6)	27 (20.6)	22 (16.8)	18.92 (0.001)
5000 -10000 (n=169)	39 (23.1)	42 (24.9)	32 (18.9)	56 (33.1)	
> 10000 (SR) (n=83)	28 (33.7)	23 (27.7)	16 (19.3)	16 (19.3)	
<b>Number of family member</b>					
2-5 (n=192)					1.98 (0.991)
6 -10 (n=159)	49 (25.5)	42 (21.9)	39 (20.3)	62 (32.3)	
>10 (n=32)	29 (18.2)	53 (33.3)	43 (27.1)	34 (21.4)	
	13 (40.6)	10 (31.3)	5 (15.6)	4 (12.5)	
<b>Numbers of Kids</b>					
2 –4 (n=212)	40 (18.5)	55 (25.9)	72 (33.9)	45 (21.2)	22.69 (0.012)
5-7 (n=143)	47 (32.8)	22 (15.4)	34 (23.8)	40 (27.9)	
>7 (n=28)	7 (25.0)	2 (7.1)	9 (3.2)	10 (3.6)	
<b>Employment Status</b>					
Work in private sector (n=51)					19.10 (0.014)
Work in government sector (n=136)	8 (15.7)	17 (33.3)	17 (33.3)	9 (17.6)	
Non employee (n=196)	62 (45.6)	35 (25.7)	23 (16.9)	16 (11.8)	
	42 (21.4)	40 (20.4)	49 (25.0)	65 (33.2)	

\* p-value of Fischer exact test

### 3.6 Association between knowledge, attitude and practice of breastfeeding.

Table 10 below shows the statistical significant between the time babies should be breastfeed with additive and without additive, it was deduce that there exist no statistical significance difference between this two method of feeding with p-value  $0.131 > 0.05$  however the babies breastfeed with additive for 2 month is less likely to be feed than those breastfeed for 1 year and more between birth to month (40.0% versus 20.0). In table 9 also we deduce the statistical difference between the time mothers should breastfeed with additive and the time they should start breastfeeding after delivery is statistical different with p-value  $0.021 < 0.05$ , with the babies that breastfeed after first days of delivery for 4 months almost double those that breastfeed after first day for 6 month only with (40% versus 21.5%). Lastly table 10 below also shows the statistical significance difference between time babies should be breastfeed after delivery and the how long they should be breastfeed without additive, however the difference is found statistical significant with p-value  $0.013 < 0.05$  and also babies that start breastfeeding half an hour after delivering between 2 to 4 month is less likely to those that started breastfeeding from birth to month with (11.7% versus 13.6).

**Table 10: Association between how long should mothers breastfeed with additive and how long mothers should breastfeed without additive.**

How long should you breastfeed without additive.	How long you should breastfeed with additive.				$\chi^2$ (p-value)
	2 month only N=54 N (%)	4 month only N=104 N (%)	6 month only N=162 N (%)	1 year and more N=63 N (%)	
Birth to month (n=105)	21 (20.0)	23 (21.9)	19 (18.1)	42 (40.0)	3.19 (0.131)
2 month to 4 month (n=180)	42 (23.3)	56 (31.1)	39 (21.7)	43 (23.9)	
4 month only (n=4)	2 (50.0)	0 (0.0)	1 (25.0)	1 (25.0)	
6 month and more (n=94)	39 (41.5)	28 (29.8)	17 (18.1)	10 (10.6)	

**Table 11: Association between how long should mothers breastfeed with additive and when they should start breastfeeding after delivery.**

When did you start breastfeeding after delivery.	How long you should breastfeed with additive.				$\chi^2$ (p-value)
	2 month only N=54 N (%)	4 month only N=104 N (%)	6 month only N=162 N (%)	1 year and more N=63 N (%)	
½ hour after delivery (n=154)	33 (21.4)	39 (25.3)	48 (31.2)	34 (22.1)	10.21 (0.021)
Within 6 hours (n=50)	12 (24.0)	8 (16.0)	19 (38.0)	11 (22.0)	
Within 24 hours (n=114)	37 (32.5)	18 (15.8)	28 (24.6)	31 (27.2)	
After first day (n=65)	19 (29.2)	26 (40.0)	14 (21.5)	6 (9.2)	

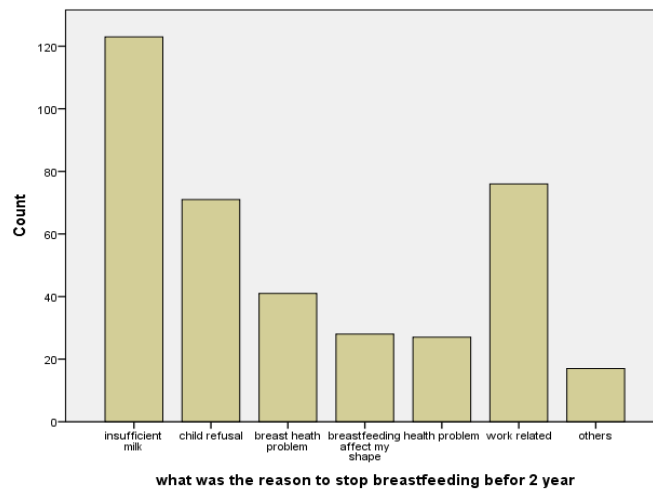
**Table 12: Association between how long should mothers breastfeed without additive and when they should start breastfeeding after delivery.**

When did you start breastfeeding after delivery.	How long you should breastfeed with additive.				$\chi^2$ (p-value)
	Birth to month N=105 N (%)	2 to 4 month N=180 N (%)	4 month only N=4 N (%)	6 month and more N=63 N (%)	
½ hour after delivery (n=154)	21 (13.6)	18 (11.7)	62 (40.3)	53 (34.4)	14.62 (0.013)
Within 6 hours (n=50)	9 (18.0)	15 (30.0)	21 (42.0)	5 (10.0)	
Within 24 hours (n=114)	31 (27.2)	23 (20.2)	33 (28.9)	27 (23.7)	
After first day (n=65)	23 (35.4)	30 (46.2)	7 (10.7)	5 (7.7)	

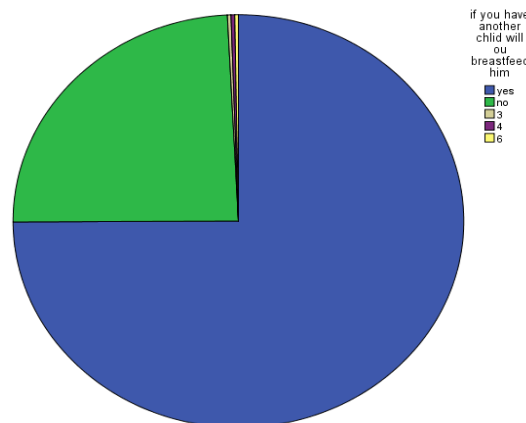
**Attitude towards breastfeeding**

From the table below majority of the participants, 74.9% agree that they will breastfed in they have another child in the future, while 25.1% disagree with this facts. 31.3% take courses about breastfeeding and 68.7% did not take any course about breastfeeding. 68.7% also attest that they will attend workshop in the future while 31.3% will not attend. Lastly 32.1% stop breastfeeding before 2 years due to insufficient milk, 18.5% due to child refusal, 10.7% due to breast health problem, while 7.3% stop because it affect their shape, 7.1% because of health problem, 19.8% stop due to work related issue and 4.4% due to other issues.

Also a test a significant shows that the only significant demographic factor is if you have another child will you breastfed with p-value 0.001<0.05 with other demographic factors (did you take courses about breastfeeding, if there is available workshop in the future will you attend, and did you take courses about breastfeeding.) were not statistically significant factors with their p-value greater than 0.05 level of significance.



**Fig 7: Bar chart on the reason to stop breastfeeding before 2 years.**



**Fig 8: Pie chart on if you have another child will you breastfeed.**



Table 13: Demographics factors associated with attitude towards breastfeeding

	Attitude towards breastfeeding.				$\chi^2$ (p-value)
	Always N=80 N (%)	Sometimes N=89 N (%)	Rarely N=150 N (%)	Avoid N=64 N (%)	
<b>If you have another child will you breastfeed.</b> Yes (n=287) No (n=96)	<b>62 (21.6)</b> <b>23 (23.9)</b>	<b>48 (16.7)</b> <b>18(18.8)</b>	<b>77 (26.8)</b> <b>23 (23.9)</b>	<b>100 (34.8)</b> <b>27 (28.1)</b>	<b>18.20</b> <b>(0.001)</b>
<b>Reason to stop breastfeeding before 2 years.</b> Insufficient milk (n=123) Child refusal (n=71) Breast health problem (n=41) Breastfeeding affect my shape (n=28) Health problem (n=27) Work related (n=76) Others (n=17)	<b>24 (19.5)</b> <b>27 (38.0)</b> <b>15 (36.6)</b> <b>6 (21.4)</b> <b>4 (14.8)</b> <b>13 (17.1)</b> <b>5 (29.4)</b>	<b>33 (26.8)</b> <b>28 (39.4)</b> <b>10 (24.3)</b> <b>10 (35.7)</b> <b>6 (22.2)</b> <b>14 (18.4)</b> <b>2 (11.8)</b>	<b>44 (35.8)</b> <b>10 (14.1)</b> <b>5 (12.2)</b> <b>7 (25.0)</b> <b>10 (37.0)</b> <b>26 (34.2)</b> <b>3 (17.6)</b>	<b>22 (17.9)</b> <b>6 (8.4)</b> <b>11 (26.8)</b> <b>5 (17.8)</b> <b>7 (25.9)</b> <b>20 (26.3)</b> <b>7 (41.2)</b>	<b>4.52</b> <b>(0.538)</b>
<b>Did you take courses about breastfeeding.</b> Yes (n=120) No (n=263)	<b>39 (32.5)</b> <b>42 (15.9)</b>	<b>29(24.2)</b> <b>78 (29.7)</b>	<b>32 (26.7)</b> <b>69 (26.2)</b>	<b>20 (16.7)</b> <b>74 (28.1)</b>	<b>7.23</b> <b>(0.965)</b>
<b>If there is available workshop in the future will you attend.</b> Yes (n=263) No (n=119)	<b>69 (26.2)</b> <b>20 (16.8)</b>	<b>46 (17.5)</b> <b>27 (22.7)</b>	<b>53 (20.2)</b> <b>32 (26.9)</b>	<b>95 (36.1)</b> <b>40 (33.6)</b>	<b>4.23</b> <b>(0.819)</b>

\* p-value of Fischer exact test

Table 14 below shows the demographic factors associated with age of exclusive breastfeeding. It was deduced that majority of the participants (50.1%) are from age group 26-35, 30.1% are from age group 18-25 while the remaining 19.8% are from age group 36-45. Also it was obvious that 4.1% of the participants were illiterates and 38.9% were university graduates. 36.8% of the participants do have housemaids while 63.2% do not use housemaids at home. 81.9% of the participants were living with their husbands while 18.1% do not have husband. Majority of the participants 38.6% uses social media as a way of entertaining themselves while 25.6% uses television as a medium of entertainment the remaining 35.8% uses television with social media as a means of entertainment. Moreover 57.4% of the participants lives in a rented apartment while 42.6% lives in their owned houses. 34.2% of the participants earn less than 5000 SR and 21.7% earn more than 10000 SR. 55.4% of the participants have kids between 2 to 4 kids at home, 7.3% have more than 7 kids in their family. While majority of the participants were unemployed, just 13.3% work in a private sector and 35.5% work in government sector .lastly 41.5% of the participants have their family made up of 6 to 10 members, 50.1% of them have 2 to 5 members while the remaining 8.4% have more than 10 members in their family.

At 5% level of significance we deduce that age of mothers, do you have housemaid, house status, income of family, numbers of family members were all statistical significant demographical factors with their p-value lesser than 0.05. While the remaining variables were not significant because their p-value is greater 0.05 level of significance.

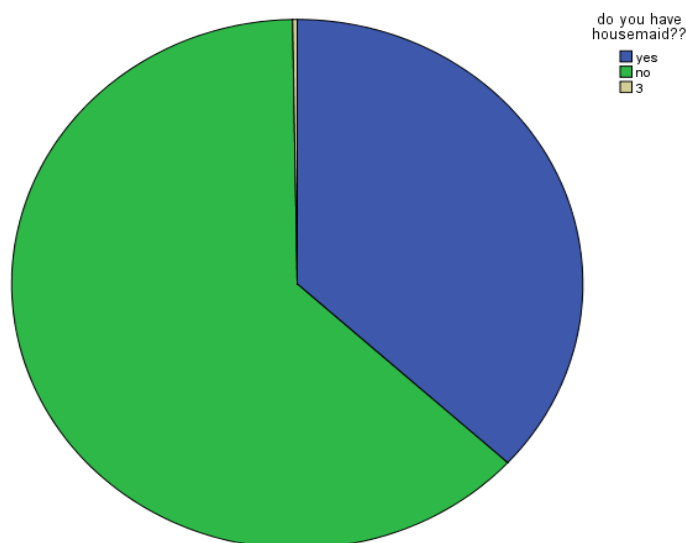


Fig 9: Pie chart on housemaid status

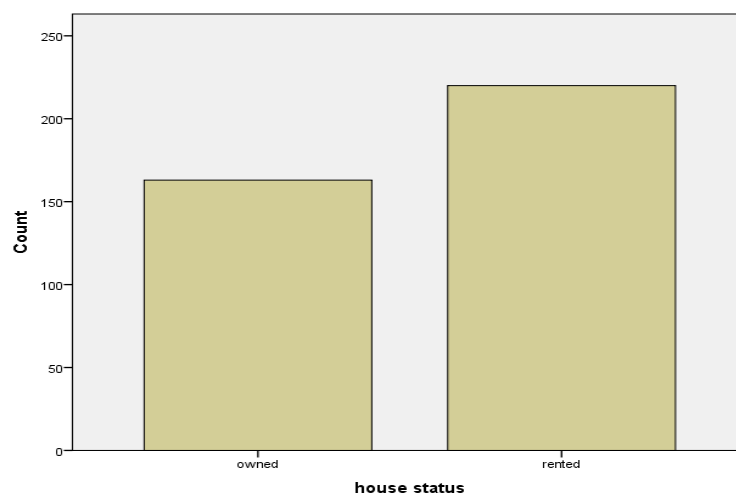


Fig 10: Bar chart on house status

Table 14: Demographics factors associated with age of exclusive breastfeeding.

	Age of exclusive breastfeeding		$\chi^2$ (p-value)
	Inadequate N=270 N (%)	Adequate N=113 N (%)	
<b>Age of mothers.</b>			
18-25 (n=115)	75 (65.2)	40 (34.8)	<b>11.02</b> <b>(0.013)</b>
26-35 (n=192)	92 (47.9)	100 (52.1)	
36-45 (n=76)	23 (30.3)	53 (69.7)	
<b>Mothers Educational level</b>			
Not Educated (n=16)	4 (69.1)	12 (30.9)	<b>1.49</b> <b>0.153</b>
Elementary (n=20)	13 (36.5)	7 (63.5)	
Intermediate (n=32)	12 (37.5)	20 (62.5)	
Secondary (n=141)	83 (58.9)	58 (41.1)	
University (n=149)	62 (41.6)	87 (58.4)	
Post graduate study (n=25)	10 (40.0)	15 (60.0)	

<b>Do you have housemaid</b>			
Yes (n=141)	<b>69 (48.9)</b>	<b>72 (51.1)</b>	
No (n=242)	<b>135 (55.8)</b>	<b>107 (44.2)</b>	<b>16.01 (0.014)</b>
<b>Are you living with husband</b>			
Yes (n=314)	<b>202 (64.3)</b>	<b>112 (35.7)</b>	
No (n=69)	<b>33 (47.8)</b>	<b>36 (52.2)</b>	<b>3.79 (0.411)</b>
<b>Entertainment ways.</b>			
Television (n=98)	<b>68 (69.4)</b>	<b>30 (30.6)</b>	
Social media(n=148)	<b>85 (57.4)</b>	<b>63 (46.9)</b>	
Television with social media (n=137)	<b>74 (54.1)</b>	<b>63 (45.9)</b>	<b>12.27 (0.021)</b>
<b>What is your house status</b>			
Owned (n=163)	<b>83 (50.9)</b>	<b>80 (49.1)</b>	
Rented (n=220)	<b>168 (76.4)</b>	<b>52 (23.6)</b>	<b>8.10 (0.046)</b>
<b>Income of family</b>			
<5000 (SR) (n=131)	<b>60 (45.8)</b>	<b>71 (54.2)</b>	
5000 -10000 (n=169)	<b>105 (62.1)</b>	<b>64 (37.9)</b>	
> 10000 (SR) (n=83)	<b>53 (62.5)</b>	<b>30 (37.5)</b>	<b>13.20 (0.039)</b>
<b>Number of family member</b>			
2-5 (n=192)	<b>103 (53.6)</b>	<b>89 (46.4)</b>	
6 -10 (n=159)	<b>79 (49.7)</b>	<b>80 (50.3)</b>	
>10 (n=32)	<b>11 (34.4)</b>	<b>21 (63.7)</b>	<b>25.63 (0.000)</b>
<b>Numbers of Kids</b>			
2 –4 (n=212)	<b>136 (64.2)</b>	<b>76 (35.8)</b>	
5-7 (n=143)	<b>63 (44.1)</b>	<b>80 (55.9)</b>	
>7 (n=28)	<b>10 (35.7)</b>	<b>18 (64.3)</b>	<b>4.37 (0.136)</b>
<b>Employment Status</b>			
Work in private sector (n=51)	<b>11 (21.6)</b>	<b>40 (78.4)</b>	
Work in government sector (n=136)	<b>63 (46.3)</b>	<b>73 (53.7)</b>	
Non employee (n=196)	<b>121 (61.7)</b>	<b>75 (38.3)</b>	<b>4.22 (0.143)</b>

The table below shows the demographical factors association with the time to start breastfeeding after delivery. It was deduced that age of mothers the first demographic factor in the table was statistical significant with p-value=0.026<0.05. Housemaid status in which 63.2% do not use at home and 36.8% uses at home was significant with p-value=0.029<0.05. Entertainment ways another demographic factor was found significant with p-value=0.000<0.05. House status in which 57.4% of the participants lived in a rented apartment and 42.6% lived in their owned house was found significant with p-value=0.035<0.05. The income of the family of which 34.2% earn less than 5000 SR and 21.7% earn more than 1000 SR was found to be statistical significant also with p-value=0.044<0.05. Number of kids another demographical factors with majority of the family 55.4% having kids between 2 to 4 and just 7.3% have more than 7 kids in their family was found to be statistical significant also with p-value=0.001<0.05

However other considered demographical factors (Employment status, number of family, are you living with husbands and mothers educational level) were not statistical associated towards the time babies should start breast feeding after delivery.

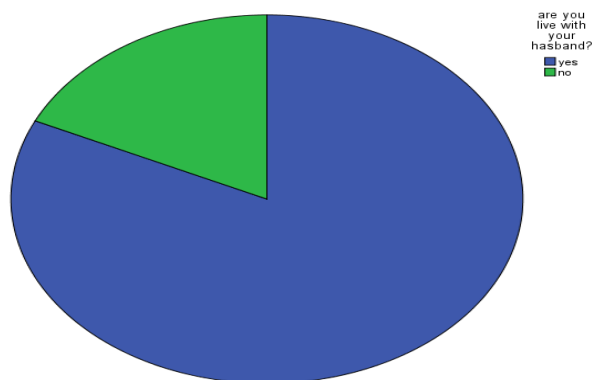


Fig 11: Pie chart on are you living with husband.

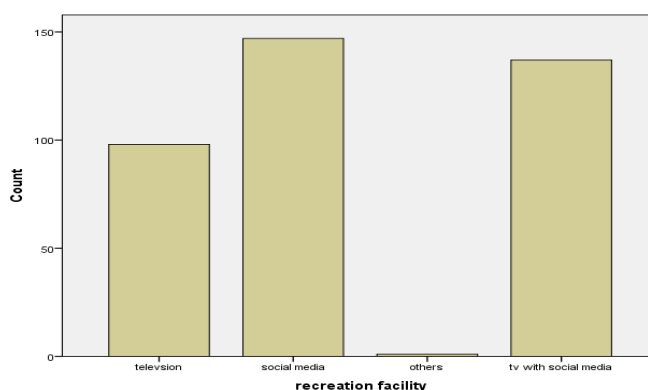


Fig 12: Bar chart on the recreation family for entertainment.

Table 15: Demographics factors associated with when to start breastfeeding after delivery.

	When to start breastfeeding after delivery.		$\chi^2$ (p-value)
	Inadequate N=190 N (%)	Adequate N=193 N (%)	
<b>Age of mothers.</b>			
18-25 (n=115)	52 (45.2)	63 (54.8)	13.13 (0.026)
26-35 (n=192)	123 (64.1)	69 (35.9)	
36-45 (n=76)	30 (39.5)	36 (60.5)	
<b>Mothers Educational level</b>			
Not Educated (n=16)	10 (62.5)	6 (37.5)	2.77 0.211
Elementary (n=20)	12 (60.0)	8 (40.0)	
Intermediate (n=32)	21 (65.6)	11 (34.4)	
Secondary (n=141)	69 (48.9)	72 (51.1)	
University (n=149)	46 (30.8)	103 (69.2)	
Post graduate study (n=25)	21 (84.0)	4 (16.0)	
<b>Do you have housemaid</b>			
Yes (n=141)	100 (70.9)	41 (29.1)	14.99 (0.029)
No (n=242)	153 (63.3)	89 (36.7)	

<b>Are you living with husband</b>			
Yes (n=314)	<b>165 (52.5)</b>	<b>149 (47.5)</b>	<b>4.00</b>
No (n=69)	<b>20 (28.9)</b>	<b>49 (71.1)</b>	<b>(0.157)</b>
<b>Entertainment ways.</b>			
Television (n=98)	<b>52 (53.1)</b>	<b>46 (46.9)</b>	
Social media(n=148)	<b>105 (70.9)</b>	<b>43 (29.1)</b>	<b>21.05</b>
Television with social media (n=137)	<b>99 (54.1)</b>	<b>38 (27.7)</b>	<b>(0.000)</b>
<b>What is your house status</b>			
Owned (n=163)	<b>77 (47.2)</b>	<b>80 (52.9)</b>	<b>11.38</b>
Rented (n=220)	<b>156 (71.9)</b>	<b>64 (29.1)</b>	<b>(0.035)</b>
<b>Income of family</b>			
<5000 (SR) (n=131)	<b>56 (42.7)</b>	<b>75 (57.3)</b>	<b>9.08</b>
5000 -10000 (n=169)	<b>82 (48.5)</b>	<b>87 (51.5)</b>	<b>(0.044)</b>
> 10000 (SR) (n=83)	<b>41 (49.4)</b>	<b>42 (50.6)</b>	
<b>Number of family member</b>			
2-5 (n=192)	<b>110 (57.3)</b>	<b>82 (42.7)</b>	
6 -10 (n=159)	<b>69 (43.4)</b>	<b>90 (56.6)</b>	<b>2.94</b>
>10 (n=32)	<b>17 (53.1)</b>	<b>15 (46.9)</b>	<b>(0.057)</b>
<b>Numbers of Kids</b>			
2 –4 (n=212)	<b>159 (75.0)</b>	<b>76 (25.0)</b>	
5-7 (n=143)	<b>97 (67.8)</b>	<b>46 (32.2)</b>	<b>19.29</b>
>7 (n=28)	<b>14 (50.0)</b>	<b>14 (50.0)</b>	<b>(0.001)</b>
<b>Employment Status</b>			
Work in private sector (n=51)	<b>22 (43.4)</b>	<b>29 (56.9)</b>	
Work in government sector (n=136)	<b>59 (43.4)</b>	<b>77 (56.6)</b>	<b>1.02</b>
Non employee (n=196)	<b>110 (56.1)</b>	<b>86 (43.9)</b>	<b>(0.450)</b>

## 5. DISCUSSION

Breastfeeding could be highlighted as a distinct way of providing nutrition for the healthy and stable growth of child from the time of birth till they become infants. Some demographical factors are however situated as causes that could hinder the practice, attitude and knowledge of breastfeeding in mothers in this study.

Age of mothers the first demographical factor in this study reveals that 50.1% of the participants are of the age group 26-35years, 30.1% of them are of the age group 18-25years and the remaining 19.8% are of the age group 36-45years. The mother's educational level reveals that 4.2% of the participants are illiterate, 38.9% are university graduate and the remaining 36.8% are secondary school certificate holders. Also it was deduce that 34.2% of the participants earn less than 5000 SR, and 21.7% earn more than 10000 SR. Moreover it was discovered also that 50.1% of the participants have a family which is made up of 2 to 4 members, 37.3% have a family made up of 5-7 members while 7.3% have a family made up of more than 7. Also the number of kids in the family reveals that 55.4% of the participants have 2 to 4 kids while 7.3% have more than 7 kids and lastly it was deduced that majority of the participants are unemployed a total of 51.2% have no job while 13.3% work with private sectors the remaining 35.5% work with the Saudi Arabia government.

According to world health organization (WHO) recommendation, infants should be intensively breastfed for the first six months of birth without any additives or supplements. While the current study is On the other hand, regarding those that breastfeed without additive it was deduced 47% of the participant's breastfeed without additives within 2 to 4 months, while 27.4% does breastfeed from birth to month, 24.5% breastfeed for 6 month while 1% breastfeed within 4 months only. Age of mothers, number of kids, employment status, are statistical significant demographical factors while mothers educational levels, income of the family and number of family members are not significant at 0.05 level of significance

In 1998, A cross section study done by mohammad H. Qadri and et al to investigate the practice of mothers that attending PHCCs who had child less than 24months of age toward breastfeeding in Dammam area of Saudi Arabia. It was recognize the low level of exclusive breastfeeding among children under 4months of age it was 33%. The reasons given by the mothers for failure to breastfeed were insufficient milk, advice. While in Our study an advanced study shows that while mothers breastfed with formula milk incentives received from religion and child health have been a major facilitator to increase in the rate at which child were breastfed exclusively and has also elongate the number of months child were exclusive breastfed it was 46.9%.

In 2011, Wren H., Chambers L. conducted cross sectional study among mothers in Cambodia to investigate breastfeeding Knowledge, Attitude and Practice, 25% women initiated BF within the 1<sup>st</sup> hour post-delivery and 53% breastfed exclusively for 6 months<sup>1</sup>. In 2013, across sectional study done by Chidozie E Mbada and et al to evaluate Knowledge attitude and Technique of breastfeeding among Nigerian mothers from semi urban community. The study shows that there were good knowledge and positive attitude toward BF, most of mothers practiced BF posture, preferred sitting on chair to breastfeed. In 2014, Across sectional study done by Eman S. Mohammed and et al to investigate KAP of breastfeeding and Weaning among mothers of children up to 2 years old in rural area in Elmina Governorate ,Egypt. Exclusive breastfeeding was found to be associated with mothers education ( $P < 0.0001$ )<sup>2</sup>. Our study in comparison to this shows the time mothers should start breastfeeding in which 40.2% of the participants started breastfeeding after delivery, while 29.8% started breastfeeding within 24 hours, 17% breastfeed within a day of delivery while just 13.1% breastfeed within 6 hours. Also mothers education level, income of the family, number of kids in a family and employment status are significant demographical factors while age of mothers and numbers in the family are not statistical significant.

In 2003, A cross sectional study was done by khassawneh M and et al to investigate knowledge attitude and practice toward BF among mothers with children aged between 6 months and 3 years from 5 different villages in north of Jordan, concluded high proportion of Jordanian women did breastfeed for more than one year and working mothers and those who delivered by CS were less to breastfeed. in our study shows that 38.9% mother university graduate at 4 months exclusively breastfeed their babies and unemployment mothers highly percent to initiation of breastfeeding.

In Riyadh 2005, Across sectional study done by Fouzia A. Al-Hreashy and et al investigate the pattern of breastfeeding practice during first 6 months of life at king Abdulaziz medical city among mothers attended PHCCs and well-baby clinic in the hospital. The breastfeeding initiation among the sample was 95% and the percent of exclusive breastfeeding was 1.7%<sup>3</sup>. Our study focus on the reason why mother stop breastfeeding and it was shown that majority does not take course about breastfeeding a major concern they have less knowledge about breastfeeding. Also it was gathered too that insufficient milk was the most challenging part that forces mothers to stop breastfeeding early before 2 years, also work related issue is another cause that forces mother to stop breastfeeding earlier. Also initiation of breastfeeding in half hour immediately after delivery 40.2% .

Kang NM. And et al conducted A cross sectional study to investigate association of BF Knowledge, Attitude and interest with breastfeeding duration among Korean mothers who used internet. Data collected by using Web base Self-administered questionnaire. Higher KAI toward BF were associated with longer duration of BF in Korean mothers in 2014, a cross-sectional study was done by Rajesh C. Sambutwad and et al to investigate knowledge among ANC Women in Rural Field in India toward breastfeeding. The study shows that there is inadequate knowledge regarding breastfeeding amongst ANC women, that measured by scoring mechanism Our study reveals that Regarding those that breastfeed with additive it was deduced 42.3% breastfeed for 6 months, 27.2% breastfeed for 4 months while 14.1% breastfeed for 2 month the remaining 16.4% breastfeed for a year and more. Then it was discovered at 0.05 level of significance that age of mothers, income of family, number of kids in the family and employment status are significant factors in measuring this while mothers educational level and numbers of family members are not significant.

A cross sectional study was done by Norah faleh Al Mutairiet, In 2016, al to investigate knowledge and practice toward breastfeeding among women attending PHCCs in Riyadh. The study concluded that majority 57% of Saudi mothers had moderate level of knowledge on breastfeeding benefits and 19% had practiced exclusive BF. On the other hand our study on the knowledge and practice of breastfeeding among the women in taif of Saudi Arabia shows that 48.3% have a sufficient knowledge about breastfeeding while 51.7% does not have sufficient knowledge about breastfeeding effects and usage in general.

A cross sectional study was also done by Riyadh A Alzaheb, 2015, to investigate factors influencing exclusive breastfeeding among mothers attending well baby clinics who had infant aged between 6 and 24 months in 5 PHCCs at Tabuk .The study concluded exclusive breastfeeding was practiced by 31.4% of mothers for first 6 months of their infant's life, there were two factors are modifiable: working mothers and mother's awareness of exclusive breastfeeding duration. While the factors investigated in our own research shows that age of mothers, housemaid status, house status, income of the family and number of family members are all significant demographical factors that facilitate exclusive breastfeeding.

### **Limitations of the study**

The first limitation of this study is based on the age group as the maximum age consider in this study is pegged at 45years which is somewhat bias as those that give birth and breastfeed above this age group is not consider in this survey however the age is a restriction to the study, the error of non response or total refusal of precipitants to respond to questions correctly or partial response is another limitation in this study lastly the study includes only mothers attending PHCCs, MOH in Taif ,therefore the results may not be representative of the whole nation

## **6. CONCLUSION**

In conclusion this study is aimed at the knowledge, practice and attitude of breastfeeding in Taif in Saudi Arabia to assess the women knowledge ,practice and attitude towards breastfeeding with and without additives. It would help general hospitals, military hospitals and private hospitals and PHCC in Taif to prepare education plans and strategies that will contribute to the enlightenment on the importance of breastfeeding. Moreover the study result would make recommendations towards the breast feeding policies and procedures in many health sectors. Lastly this study may provide an avenue for further investigation on the practice, attitude and knowledge of breastfeeding in Saudi Arabia in years to come.

## **7. RECOMMENDATIONS**

- a) Education of the pregnant women and nursing mothers on the need and importance of breastfeeding be done through seminars and lectures organized at the health sectors especially PHCC.
- b) General awareness to the Saudi Arabia women about the importance of the full intensive 6 month breastfeeding by the WHO this could be achieved through the media, posters, banners etc.
- c) Mass media should be used more as a medium in educating family members especially father and relatives of pregnant and nursing mothers about BF to achieve of goals of breastfeeding
- d) Awareness about the importance of breastfeeding immediately after delivery by mothers should be done which could also be achieved through seminars organized at the health sectors.
- e) Further study is needed to include woman that give birth above 45 years and those that give birth below 18 years and children above 2 years as they excluded from this study.
- f) Increase awareness of physician toward BF and encourage the mothers to breastfed their babies and overcome the difficulties.

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