

KNOWLEDGE REGARDING BREASTFEEDING PRACTICES AMONG DOCTORS

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ABSTRACT

Background: Breastfeeding is an important foundation for a healthy life. It is important to follow optimal breastfeeding practices which is only possible through proper knowledge. The present research was carried out to assess the knowledge of doctors regarding breastfeeding practices. **Methodology:** This was a one-week observational descriptive cross-sectional study. Using simple randomized sampling, out of 150 participants, 120 completely filled a self-designed 9-item questionnaire. The data was entered and analyzed using SPSS version 22. Descriptive analysis was used for the individual responses to each question to be expressed as frequencies and percentages. The total knowledge score was 45, 5 marks for each correct answer. Score less than 25 was

considered "poor", 25-35 as "good" and more than 35 as "excellent" score. Mean and standard deviation was calculated for the total knowledge score. Chi-square test was used to find out the

correlation between different demographic variables and the total knowledge score. P-value was set at 0.05. **Results:** The overall response rate was 80%(120/150). The mean age of the respondents was 34.09 +/- 5.4. 67.5% of the participating doctors had less than one year of clinical experience, 60.83% of the doctors were working in gynecology department with the female doctors representing 80.83% of the total. The mean knowledge score of the participants was 33.34 +/- 4.32. Majority of the doctors were equipped with sufficient knowledge regarding breastfeeding practices. 71.98% achieved good score, while 17.46% achieved excellent scores, with only 10.56% of them achieving poor score. The mean knowledge score was positively related to the years of practice, the specialty working in and the gender, giving a p-value of <0.05. **Conclusion:** There was good knowledge about breastfeeding among doctors which was positively correlated to years of practice, the specialty working in and the gender of the doctors. Better knowledge of the doctors regarding breastfeeding plays a major role in the whole breastfeeding process. There is need to increase awareness of the health-care professionals as well as the general population.

KEYWORDS: Knowledge, Doctors, Breastfeeding practices.

BACKGROUND

Breastfeeding is an important foundation for a healthy life of an individual starting from as early as after birth, when he/she is a neonate, continuing throughout the different phases, until, he becomes an adult.^[1] It is essential to initiate breastfeeding of the newborn child at the right time and for the required time period. According to the World Health Organization (WHO) guidelines, breastfeeding should be initiated in the first hour after birth regardless of the mode of delivery (simple vaginal delivery or Cesarean section).^[2] It is also recommended that exclusive breastfeeding (feeding infant with ONLY breast milk) should be continued for at least 6 months, after which complementary feeding can be started for the infant. However, breastfeeding should further be continued for another 18 months.^[3] Islam has laid ample emphasis on importance of breastfeeding. Allah says in the Holy Quran, *“And mothers shall breastfeed their children for two whole years for those who desire to complete the appropriate duration of breastfeeding”*.^[4]

There is sound evidence for the positive impact of breastfeeding on the health of the children, the mothers and the community as a whole.^[5] The main benefits of breastfeeding to mothers include decrease in maternal postpartum bleeding, decrease in risk of certain types of cancer (including ovarian, endometrial) and also decreased risk of developing osteoporosis.^[6] In

addition to this, through breast milk, the infant gets the ideal nutrition needed for optimal development with lower risks of asthma or allergies, ear infection, respiratory illnesses, diarrhea, obesity, diabetes, certain cancers, or SIDS (Sudden Infant Death Syndrome).^[7] Breastfeeding is found to be linked with higher IQ (Intelligence Quotient) as well.^[8] Furthermore, breastfeeding increases bond between the mother and child through physical closeness, skin-to-skin touch and eye contact.^[9]

There are certain contraindications to breastfeeding. These include being infected with local breast HSV (Human Simplex Virus), brucellosis, having untreated active TB (Tuberculosis) or having active varicella. However the true ABSOLUTE contraindications include, infant galactosemia, maternal HIV (Human Immunodeficiency Virus) infection and maternal T-Cell Lymphotropic virus type 1 or type 2, mother using illicit street drugs or is infected with Ebola virus.^[10] Bottle feeding, the alternative to breastfeeding, is a major factor in the causation of late neonatal sepsis. Availability of formula milk has increased infant mortality and is reported to be 9.4 per 1000 live births. The major reason attributed to it is the use of unsterilized water, which acts as a vector for transmission of waterborne pathogens to infants.^[11]

UNICEF (United Nations International Children Education Fund) has published guidelines listing '10 steps for optimal breastfeeding' that should be followed by every facility providing MCHC (Mother Child Health Care) services to the mothers and the newborn child. The main aim of these guidelines is to provide informational care to the mother regarding maternal problems relating to breastfeeding. Yet, despite all the efforts, the global percentage of breastfeeding is alarmingly low. Major determinants of this diminishing percentage include maternal employment status, maternal education, parity, antenatal visits and health provider support.^[12]

The percentage of breastfed infants in Pakistan is dangerously low.^[13] One of the major factors contributing to this decreased frequency of breastfeeding in Pakistan is due to reduced knowledge of mothers.^[14] This can be achieved by equipping the mothers with optimal knowledge regarding breastfeeding which is only possible by making the doctors possess complete awareness regarding proper guidance of all the aspects of breastfeeding including various lactation issues.^[15] There is a need to inquire about the level of understanding and knowledge regarding this among those who are standing in front-line to encounter the general population and guide them regarding it.

Sir Ganga Ram Hospital (SGRH) is a tertiary care hospital which is affiliated with Fatima Jinnah Medical University located in Lahore, the capital city of the Punjab province of Pakistan. The patient turnover in the various departments, especially pediatrics and gynecology, is huge. To the best of authors' knowledge, no research has been previously done on this domain in this hospital. The present research, therefore, was carried out to assess the knowledge of doctors in SGRH regarding breastfeeding practices.

METHODOLOGY

The research was approved by the ethical review board of the institute. This was a one-week observational descriptive cross-sectional study carried out in Pediatrics and Gynecology Departments of Sir Ganga Ram Hospital. A sample size of 150 was calculated for the study with an anticipated non-response rate of 10% and 7.5% margin of error. A self-designed 9-item questionnaire was used for data collection. It was validated by 3 experts including 2 pediatricians and one gynecologist. A pilot study was done on 20 doctors to assess the clarity, reliability, understanding and appropriateness of words. Internal consistency was measured using Cronbach's alpha which was 0.70; these results indicated good internal consistency.

The doctors were selected by simple randomization sampling technique. Following informed consent, the questionnaire was handed over to doctors and the completed questionnaires were collected by the investigator. The data was entered and analyzed using SPSS version 22. Descriptive analysis was used for the individual responses to each question to be expressed as frequencies and percentages. The total knowledge score was 45, 5 marks for each correct answer. Score less than 25 was considered "poor", 25-35 as "good" and more than 35 as "excellent" score. Mean and standard deviation was calculated for the total knowledge score. Chi-square test was used to find out the correlation between different demographic variables and the total knowledge score. P-value was set at 0.05.

RESULTS

The overall response rate was 80%(120/150). the mean age of the respondents was 34.09 +/- 5.41. Majority of the participating doctors had less than one year of clinical experience accounting to 67.5% of the total. 60.83% of the doctors were working in gynecology department with the female doctors representing 80.83% of the total. (Table 1)

Table 1: Demographic Variables.

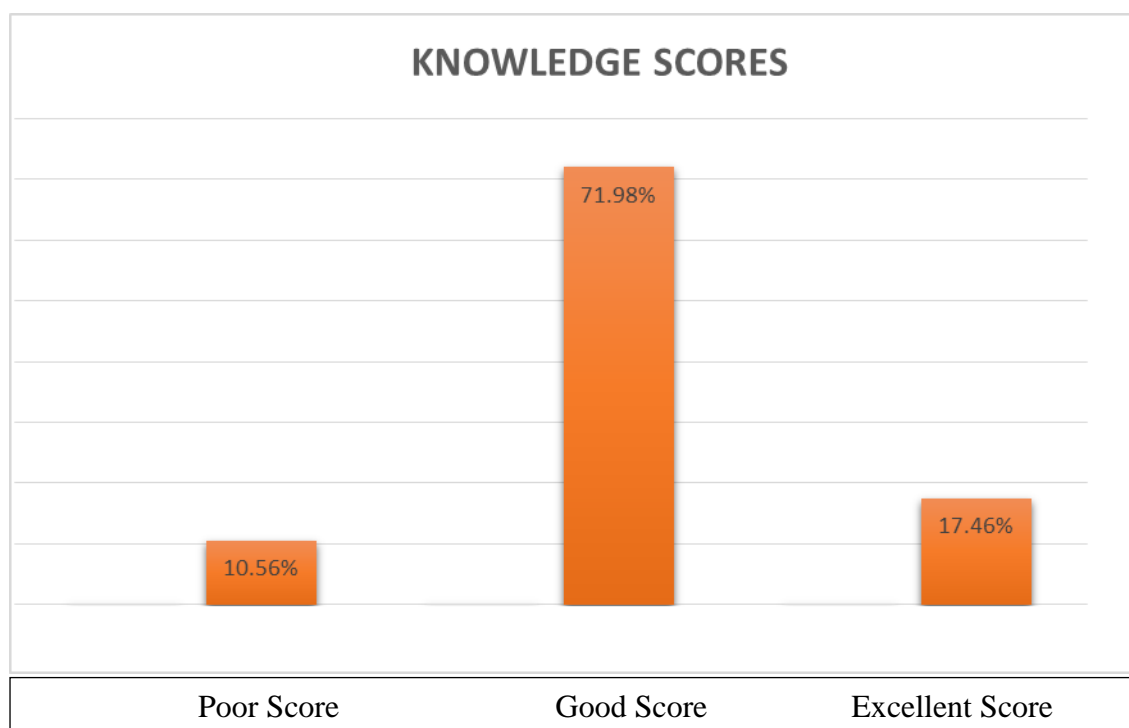
Demographic Variables		n
Years Of Practice	Less than 1 year	81(67.5%)
	1 to 5 years	30(25%)
	6 to 10 years	9(7.5%)
Specialty	Gynecology	73(60.83%)
	Pediatrics	47(39.16%)
Gender	Female	97(80.83%)
	Male	23(19.17%)

The responses given to the knowledge questions are given in table 2.

Table 2: Responses to Knowledge Questions (correct answers are written in bold).

Question	Options	n	Percentage
What should be the first intake of a newborn baby after birth?	Honey	4	3.33%
	Crushed date	37	30.83%
	Breast milk	79	65.83%
How long after delivery should breastfeeding be initiated?	Within one hour	71	59.16%
	After one to six hours	50	41.66%
	After six to twelve hours	9	7.5%
What should be the duration of exclusive breastfeeding?	Up to four months	15	12.5%
	Up to six months	90	75%
	Up to eight months	15	12.5%
What should be the frequency of breastfeeding in a day?	Six to eight times	8	6.66%
	Eight to ten times	39	32.5%
	Ten to twelve times	73	60.83%
What other liquid can be given during exclusive breastfeeding period?	Water	4	3.33%
	Gripe water	29	24.16%
	Only breast milk	87	72.5%
Should colostrum be discarded?	Yes, as it is harmful for the newborn	14	11.66%
	No, as it is beneficial for the newborn	106	88.33%
What is should be the duration of breastfeeding?	One year	19	15.83%
	One and half years	11	9.16%
	Two years	90	75%
Which condition, if present in mother, is an ABSOLUTE contraindication for breastfeeding ?	HIV infection	101	84.16%
	Untreated TB Infection	10	8.33%
	Local breast infection	9	7.5%
Which condition, if present in infant, is an ABSOLUTE contraindication for breastfeeding ?	Galactosemia	81	67.5%
	Gastroenteritis	20	16.66%
	Local oral infection	19	15.83%

The mean score of the participants was 33.34 +/- 4.32 with a maximum score of 45 and minimum score of 20. Majority of the doctors were equipped with sufficient knowledge regarding breastfeeding practices; 71.98% achieved good score while 17.46% achieved excellent scores with only 10.56% of them achieving poor score. (graph 1)



Graph 1: Knowledge Score distribution of the Respondents.

The mean knowledge score was positively related to the years of practice, the specialty and the gender giving a p-value of <0.05.

Table 3: Correlation of Demographic Variables with Knowledge Score.

Demographic Variables		n	Mean Knowledge Score	P-Value
Years Of Practice	Less than 1 year	81(67.5%)	34.23 +/- 6.21	<0.05
	1 to 5 years	30(25%)	29.57 +/- 2.98	
	6 to 10 years	9(7.5%)	33.89 +/- 2.12	
Specialty	Gynecology	73(60.83%)	32.39 +/- 3.09	<0.05
	Pediatrics	47(39.16%)	34.98 +/- 2.31	
Gender	Female	97(80.83%)	33.98 +/- 2.21	<0.05
	Male	23(19.17%)	30.41 +/- 3.91	

DISCUSSION

Breastfeeding is a key element to ensure optimum health to the new-born infant.^[13] To spread awareness of the merits of breastfeeding, World Breastfeeding Week (WBW) is celebrated in the first week of August under the leadership of World Health Organization, United Nations.^[16] WHO has issued guidelines to ensure optimal breastfeeding.^[17] Despite all these efforts, very low percentage of children are optimally breastfed and most of them are bottle fed. This is mainly attributed to decrease maternal knowledge about the merits of breastfeeding. Better knowledge of the women leads to better attitudes and improved

practices among them. Poor knowledge leads to malpractice among mothers, which leads to poor health of the children and decreased immunity, leading to gastrointestinal and respiratory tract infections.^[4-7,12] All this can be avoided by proper guidance by the health-care professionals who also need to possess proper knowledge regarding it. There is need to assess their knowledge regarding breastfeeding which is now a major issue of the global health. Therefore, this research was carried out to assess doctor's knowledge regarding breastfeeding.

First Intake of Newborn

Breastfeeding should be the first feed of the infant after birth. 'Prelacteal' feed is the food that is given to the neonates prior to initiating breastfeeding, usually on the first day of life and includes dates, honey, sweet water, jaggery (brown sugar from sugar cane) ghee (clarified butter) etc. Prelacteal feeds have very low value in terms of nutrients and immunology and often are a source of introduction of contaminants into the newborns' body.^[29] There is a malpractice in the Pakistani culture of giving the such feeds to the baby which is due to insufficient knowledge regarding it.^[30] To assess the knowledge of doctors regarding this issue, the participants were investigated. According to our research, approximately 79/120 (65.83%) of the population were well aware of breast milk being the first food of choice after birth. Similar to our results, only a very low percentage (9%) of doctors and 19% of nurses felt that prelacteal feed should be given in form of guthi or honey.^[31]

Initiation of Breastfeeding

On assessing the knowledge regarding initiation of breastfeeding, 59.16% (71/120) correctly knew that breastfeeding should be initiated in the first hour after birth. Slightly more than 40% of the population thought that it should be initiated 1-6 hours after birth, while 7.5% said that it can be started 6-12 hours after birth. Shaw SC et al showed that all (100%) doctors and nurses agreed that breastfeeding must be started within 1st hour of birth.^[21]

Duration of Exclusive Breastfeeding & Addition of Other food Items during Exclusive Breastfeeding

When asked about the right duration of exclusive breastfeeding, exactly 75% (90/120) knew that exclusive breastfeeding should be continued for good 6 months following birth. An equal percentage of 15% of the participants wrongly assessed that it should be continued for up to 4 months and 8 months respectively. Exclusive breastfeeding for around 6 months facilitates

the intake of a healthier diet in late childhood.^[2,3] WHO recommends exclusive breastfeeding for a duration of 6 months.^[2] No more than 35% of infants worldwide are exclusively breast fed during the first 4 months of life.^[18]

Complementary feed should be initiated no earlier than the beginning of 5th month and no later than the beginning of 7th month and it must include the food items to meet the nutritional requirement of the children.^[3,19] The research participants were asked about the addition of any other liquid along with breast milk during the duration of exclusive breastfeeding. 72.5% knew that only breast milk should be given while 27.5% thought that plain water and gripe water can be added.

Makhdoom S et al. conducted a KAP study regarding '1000 Day Nutrition' in which the knowledge regarding breastfeeding practices was also assessed among the health-care professionals in Peshawar city of Pakistan. 86.7% of the doctors agreed that exclusive breastfeeding should be continued for 6 months, 9.3% said it should be continued for 9 months while 4% didn't know. When asked about start of complementary feeding, 71.3% agreed for 6 months, 17.3% agreed for 4 months, 8% doctors opted for 7 months while 3.3% of the doctors did not know. 96% considered exclusive breastfeeding important, 1.3% did not consider it important while 2.7% health care physicians were not sure about this.^[20] Shaw SC et al concluded that 58.8% of the doctors and 25.7% of the nurses believed that after 6 months of life, the mother must give her infant cow's milk or formula for better growth.^[21]

Frequency of Breastfeeding

The majority of participants were unaware of the frequency of breastfeeding in a day. 44% (88/200) women knew that the frequency of breastfeeding should be 10-12 times a day. 56% of the participants incorrectly answered, 20% responded 6-8 times while 36% responded 8-10 times. Shaw SC et al concluded that among doctors, only 67.6% believed that breastfeeding for a normal newborn should be on demand only and not by clock.^[21]

Colostrum

Colostrum is the first form of milk produced by the mammary glands of mammals (including humans) immediately following delivery of the newborn. In general practice among Pakistani population, colostrum is discarded as it is thought that it may be harmful for the baby, which is contradictory to medical facts.^[22] The benefits include helping the baby build a strong immune system, protects the neonatal gastrointestinal system, acts as laxative to pass

meconium, helps prevent jaundice, contains nutrients for easy digestion and prevents low blood sugar levels in the neonates.^[23] In our study, 88.33% of the doctors agreed that colostrum is beneficial for the neonate and must be given. In a study conducted in Haryana district of India, the knowledge and practices of the health-care providers was assessed and nearly all of them were aware of its benefits and recommended the mothers to feed their newborn babies with colostrum.^[32]

Duration of Breastfeeding

In our study, 75% of the doctors were aware of the right and appropriate duration of breastfeeding which is a period of an exact 2 years. Islam and medical sciences both recommend a total duration of 2 years of breastfeeding.^[4] In a study conducted in India, only 52.9% of doctors and 40.2% of nurses agreed that breastfeeding should be advised to be continued for 2 years and beyond.^[21]

Contraindications To Breastfeeding

There are certain conditions, which if present in mother or the infant, are an absolute CONTRAINDICATION to breastfeeding in which the mother can neither resume breastfeeding at any stage nor can feed the child with expressed milk.^[24] 84.16% and 67.5% of the participating doctors correctly knew the maternal HIV infection and infant galactosemia respectively are the conditions which make breastfeeding truly and absolutely contraindicated. The results are comparable to Shahu M et al who showed that 60% of the doctors were aware of the contraindications to breastfeeding.^[33]

Knowledge Scores

Overall, the knowledge regarding breast feeding among the women was good with a score of 33.34 \pm 4.32. The mean knowledge score was positively related to the years of practice, the specialty and the gender.

In an Australian study, the mean knowledge scores calculated was 3.4 (maximum score = 5) with 40% of the knowledge questions being correctly answered by the participating general practitioner.^[26]

A study was carried out in Israel to assess the attitude and knowledge of doctors which showed that physicians correctly answered 3.5 ± 1.7 out of seven questions examining knowledge which 75.3% of the doctors talking about its advantages.^[27]

In contrary to our results, majority of the general practitioners in Nigeria lacked sufficient knowledge regarding breastfeeding and felt less confident in advising the new mothers regarding breastfeeding.^[28] In a study carried out in the kingdom of Saudi Arabia, the knowledge score was low among female medical undergraduates and there was presence of many reported misconceptions regarding breastfeeding among them.^[25]

A limitation of our study is that it did not assess the attitude and the practices of the doctors regarding breastfeeding and only focused on the aspect of knowledge. Future studies should fill this gap. It was a single-centered study which involved the doctors of only one hospital working in pediatrics and gynecology department of the hospital. Future studies should involve multiple hospitals so that a better assessment can be made at a provincial or national level.

CONCLUSION

There is good knowledge about breastfeeding among doctors which is positively correlated to years of practice, the specialty working in and the gender of the doctors. Better knowledge of the doctors regarding breastfeeding plays a major role in the breastfeeding process. Therefore, it is crucial to ensure provision of proper education regarding breastfeeding to improve the knowledge. There is a need of creating awareness among health-care professionals as well general population through workshops, seminars and awareness campaigns.

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