

Early Breast-Feeding Initiation Using Point Of Care Quality Improvement Model At Tertiary Care Hospital In AJK

Aftab Hussain Khan¹, Mumtaz Ahmad Khan², Abrar Akbar³,
Sehrish Mumtaz⁴, Yasira Abbasi⁵, Lubna Meraj⁶

¹ DG Health Directorate, Muzaffarabad

² HOD/Professor Pathology, AJK Medical College, Muzaffarabad

³ Assistant professor, Holy Family Hospital, Rawalpindi.

⁴ Registrar Medicine, Muzaffarabad.

⁵ Consultant Gynecologist, Rawal Institute of Cardiology.

⁶ Associate Professor, BBH, Rawalpindi

Author's Contribution

^{1,2} Conception of study

^{5,6} Experimentation/Study Conduction

⁴ Analysis/Interpretation/Discussion

² Manuscript Writing

³ Critical Review

³ Facilitation and Material analysis

Corresponding Author

Dr. Lubna Meraj

Associate Professor

Department of Medicine

BBH

Rawalpindi

Email: lubnamerajch@gmail.com

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Abstract

Objective: . This study aimed to assess the prevalence and associated factors of early initiation of breastfeeding among mothers in a tertiary care hospital in AJK, where POCQI has been piloted.

Methods: A quality improvement, cross-sectional study before and after the implementation of the POCQI model on two independent samples was carried out from August to November 2019. A total of 100 women (50 before intervention and 50 after intervention) who delivered neonates of 0-7 days' age were included in the study by using a non-probability convenience sampling technique. The relevant information was gathered by using a questionnaire. Mothers who did not start breastfeeding within the first hour did not receive any health education during antenatal visits. such women lack knowledge about the benefits of colostrum. Hence an intervention was introduced by Researcher jointly in collaboration with the POCQI team of the hospital by using Plan-Do-Study-Act (PDSA) cycle. Slogans and health education messages for the promotion of early initiation of breastfeeding were developed and messages were spread to pregnant mothers who visited hospitals for antenatal care or came for delivery in the labor room.

Results: A total of 100 women (50 before intervention and 50 after intervention) who delivered newborn babies of 0-7 days' age were selected purposively. Before POCQI intervention out of fifty only eleven (22 %), women breastfed their newborn within one hour after birth. After POCQI intervention, out of fifty, thirty-seven women (74%) exclusively breastfed their newborn within one hour. Thus, the total increase in terms of percentage was 54%.

Conclusion: The study gives evidence for more need to enhance breastfeeding uptake in AJK. The prevalence of EIBS was low before the implementation of the POCQI model, but it improved significantly after its application.

Keywords: Early Initiation of Breastfeeding, Newborns, AJK, Quality Improvement

Introduction

Breastfeeding is a natural process required for the growth and development of a baby because it contains essential nutrients required for the growth of the baby. Breastfeeding is equally beneficial for the baby and the mother.¹ Exclusive breastfeeding plays an important role in child health and longevity². Optimal breastfeeding decreases morbidity and mortality in children and prevents stunting. The United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) recommend that children start breastfeeding within the first hour of their delivery and be breastfed exclusively over the first six months of life. Delay in initiation of early breastfeeding can lead to life-threatening effects³. There is rising evidence that breastfeeding helps children to develop their brains and protects them from being overweight and obese. Breastfeeding protects neonates in human environments, where access to clean water, satisfactory health, and essential facilities often are inadequate, which is particularly important⁴. Breastfeeding is a much-needed activity for children in families. In the first hour of life, children who are not put to the breast are also at increased risk of common infections⁵.

Lactation requires tactile sense which offers short- and long-term advantages in infants after delivery. Immediate contact between mother and child helps to regulate the temperature of newborn babies and enables them to be populated by beneficial skin bacteria. Such 'healthy' bacteria guard against infectious diseases and help children build up their immune systems⁶. Other infant benefits include lower chances for certain diseases of childhood, such as diabetes, obesity, and breastfeeding infants with higher levels of intelligence⁷. Mothers also have a reduced risk of breast cancer, ovarian cancer, and type 2 diabetes from breastfeeding. Mother-fed children are usually healthier and require fewer pediatric visits, fewer medicines, and fewer hospitals⁸. Mammary gland secretions improve cognitive development and the immune system while reducing the risk of autoimmune and atopic disorders, obesity and leukemias in children⁹. Given the benefits of breastfeeding in infants, factors that may affect lactation are important to identify. There is proof that low maternal literacy is correlated with breast failure. There are growing literature suggesting that both low and medium-income maternal socioeconomic variables are linked to influence breastfeeding

statistics. A negative correlation between household income and exclusive breastfeeding has also been found in several studies. Institutional delivery and prevention of exclusive breastfeeding were found, while breastfeeding advertising and articles were positively linked with increasing levels of breastfeeding¹⁰. The inadequate provision of skilled attendants at the time of birth is one of the causes of the low rate of early breastfeeding. It is believed that when a suitable attendant is present, immediately after birth, mothers obtain advice and support to start breastfeeding. An extensive approach is required to improve early initiation rates.

Globally, the importance of early lactation is acknowledged and outlined in several worldwide recommendations and policy documents, and initiatives. Such documents reveal that an immediate skin-to-skin touch is part of a 10-step WHO-UNICEF Baby-Friendly Hospital Programmed, which encourages early initiation. In its roadmap and a joint platform for actions to combat neonatal mortality, the WHO-UNICEF Newborn Plan calls for the early onset of breastfeeding. Last year, WHO released values for improving the superiority of maternal and baby care in health services as part of the Quality Care Initiative. Early initiation of breastfeeding features is one of the key standards¹⁰. The prevalence of early initiation and exclusive breastfeeding in Pakistan is less than the WHO recommendations. Moreover, there are inconsistencies among estimates in different districts of the country. There is still a lack of knowledge in newborn care in general and particularly about the appropriate techniques and interventions for breastfeeding management. This breastfeeding practice for the first six months of neonate life is not promising in the Southeast Asia region, including our country. Therefore, this study aimed to assess the prevalence and associated factors with time and mode of breastfeeding among mothers in a tertiary care hospital in AJK, where the Point of care Quality improvement initiative has been piloted.

Materials and Methods

This was a quality improvement study, cross-sectional surveys before and after the implementation of the POCQI model on two independent samples. The study was carried out in the Department of Gynecology/Obs, Abbas Institute of Medical Sciences (AIMS), Muzaffarabad, from August to November 2019 after getting permission from the Hospital Ethical

Committee. AIMS hospital is a 400-bedded teaching hospital, which receives patients from the northern region of Azad Jammu & Kashmir. Informed consent was taken from all the patients. A total of 100 newborn babies of 0-7 days age-old were selected purposively. Non-probability convenience sampling technique was used. All live births of mothers aged 18 and above were referred to AIMS hospitals included in the study while pregnant women with complications and comorbidities such as severely anemic, TB, HIV/AIDS, Hepatitis, eclampsia, etc. were excluded from the study. Data was collected from a questionnaire and a data extraction form. The questionnaire gathered information on the socio-economic and demographic status of women, previous pregnancy history, antenatal care, and nutritional status of women such as BMI. Information extracted from the register included EBF rates, weight, temperature, and APGAR score. When interviewed before introducing intervention, 11 out of 50 women started breastfeeding within one hour of delivery.

After baseline data collection a team was formed comprising a researcher, gynecologist, quality director, and three staff nurses. The team collaboratively evaluated the reasons for the poor establishment of early breastfeeding by fishbone analysis. Analysis of data revealed that the mothers who did not start breastfeeding within the first hour did not receive any health education during antenatal visits and their knowledge about the benefits of early initiation of breastfeeding was very poor, and they formulated various steps for improving the same. The Quality improvement initiative package for improving care for Mothers and Newborns prepared jointly by WHO in collaboration with UNICEF and USAID was implemented by using Plan-Do-Study-Act (PDSA) cycle to achieve the aim. Slogans and health education messages for the promotion of early initiation of breastfeeding were developed and disseminated to expecting mothers who visited the hospital for antenatal care or came for delivery in the labor room.

Implementation: This POCQI model is implemented after taking into consideration all the steps in a programmed sequence.

Step 1: Identifying the problem with the quality of care, forming a team, and writing an aim statement.

The problem identified was low EIBS within one hour after delivery in women who were reporting to AIMS in Gynecology Department. We started working on the new indicator of early initiation of breastfeeding as currently under-practiced, in data collected from July 2019 to November 2019 early initiation of

breastfeeding was 10% percent, staff in the team has started advising patients, and data collection continued till November 2019.

Aim Statement: To establish breastfeeding practices in mothers delivered by NVD/C-section before discharge from 10% to 50% within 16 weeks. Indicators to measure change: Proportion of newborns in which initiation of breastfeeding done within one hour after birth.

Numerator: Number of newborns in which EIBS started within one hour after birth. Denominator total number of live births

Step 3: Develop changes and test these to learn what works.

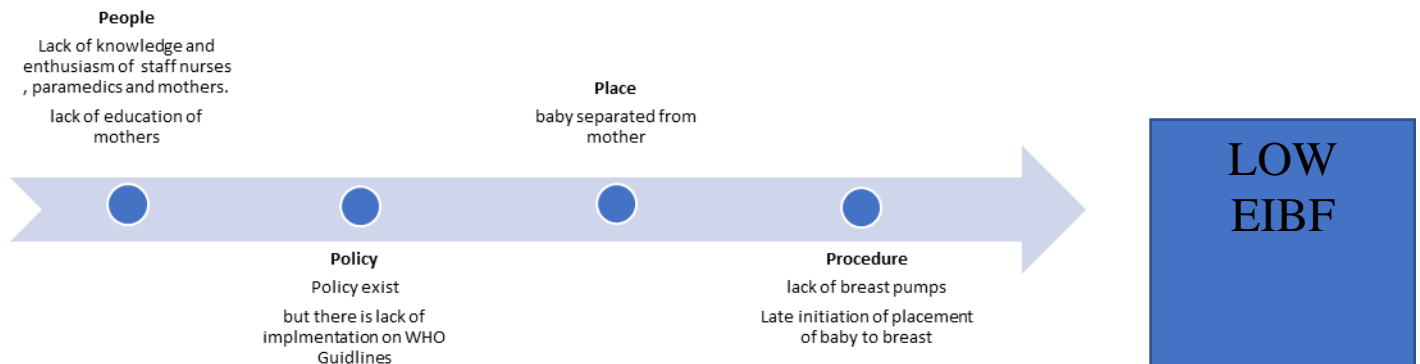
Before this study no separate staff was appointed in the postnatal ward nor staff on duty was trained to give post-natal lactation counseling. For all the pregnant ladies who were coming to OPD, Clinic, wards, and labor room, awareness was given regarding the early initiation of breastfeeding. The slogan was developed with the help of experts. The slogan was "Early initiation of breastfeeding within one hour protects the newborn from disease. EIBS within one hour increases longevity, and intelligence and promotes growth".

Step 4: Sustainability

Health managers, health professionals, academia, and stakeholders must work together to invest in and support breastfeeding for a sustainable future. The POCQI model has been designed to build capacity for quality improvement in the breastfeeding guidelines by teams of healthcare workers who will be suitably and actively supported by the management of the hospital/health facility and the district health managers. Team members involved in working, celebrations, performance-based incentives, and certificates should be given to increase their motivation. Moreover, it must be adopted at the policy level in the hospital. This intervention is being introduced to improve the quality of care by involving the hospital team. Continuity of this practice and capacity enhancement are essential for sustainability.

Data collected from interviewing 50 mothers who delivered during the study period after the introduction of intervention revealed that 41 out of 50 mothers started breastfeeding within the first hour of delivery. Data were entered into SPSS v.20 and analysis was carried out. The results were displayed in the form of tables, graphs, and figures. Descriptive analyses were done to assess the change in the percentage of early initiation of breastfeeding before and after the implementation of POCQI.

Step 2: Analyzing the problem and measuring quality of care.



Results

The mean age of women was 31.9 years, ranging from 18 to 47 years. Sociodemographic characteristics of women in the study group before and after the

implementation of the POCQI model consisting of the age of the mother, education, occupation, income, complications during pregnancy & delivery, and mode of delivery are shown in Table 1.

Table-1 Sociodemographic characteristics of pregnant women before implementation of POCQI model vs after implementation of POCQI model

s.no	Characteristics	Before implementation % age/ Frequency	After implementation % age/ Frequency
01	Age of Mother	18-27	36% [14]
		28-37	49% [25]
		38-47	15% [11]
02	Education Status	Illiterate	37% [18]
		Secondary School	61% [31]
		Graduate	02% [01]
03	Occupation	Housewife	90% [45]
		Private Job	08% [04]
		Govt. Job	02% [01]
04	Income	<15000	08% [04]
		<16000-30000	81% [40]
		<310000-50000	11% [06]
05	Complication during Pregnancy	Yes	0 [0]
		No	100% [50]
06	Mode of Delivery	NVD	75% [38]
		C-Section	25% [12]
07	Complication during childbirth	Yes	12% [06]
		No	88% [44]

Table-2 Early Initiation of Breast Feeding

S. No	Characteristics		Mothers early breastfeeding (%)	Mothers early breastfeeding (n)
A	Before Intervention	Yes	22%	11
	Within one hour	No	78%	39
B	After Intervention	Yes	74%	37
	Within one hour	No	26%	13

Table 2 shows early breastfeeding among all women before and after the intervention. Before POCQI intervention out of fifty only eleven women breastfed their newborn within one hour after birth, constituting 22 %, and thirty-nine women did not breastfeed their newborn baby within one hour after birth or breastfed after one hour, representing 78 % of the total. This showed that priority intervention was required to address this important community problem.

After POCQI intervention, out of fifty, thirty-seven women started EIBS and breastfed their newborn within one hour, denoting 74% of the total. Still, 26% of women failed to breastfeed their newborn baby within one hour. In this study, it was observed that before intervention early breast-feeding initiation was 22% and after POCQI intervention it was raised significantly up to 74%. Thus, the total increase in terms of percentage was 54%. Breastfeeding their babies one hour after the Intervention

Discussion

This study confirmed a significant and continued improvement in first-hour breastfeeding initiation rates in neonates in a busy public sector hospital, by using the PDSA cycle. Only about nine in 50 infants were breastfed within the first hour of birth before intervention. Immediate newborn care, including early nutrition interventions such as early initiation and exclusive breastfeeding, are some of the proven interventions that reduce neonatal mortality. An earlier AJK study also found that initiation of breastfeeding within 24 hours of birth can prevent all neonatal deaths¹¹.

The Ministry of Health in AJK trains health workers to become skilled birth attendants. As part of the curriculum, skilled birth attendants are trained in ‘supporting successful breastfeeding’ that includes ‘education’, main growth chart, Oral Rehydration Salt,

immunization, nutrition, family planning, and ‘skill’ components on encouraging and supporting mothers to breastfeed as part of immediate newborn care, hence covering 67% of the population. Our findings showed that being assisted by skilled attendants during childbirth increased the likelihood of a woman initiating breastfeeding within one hour of childbirth, which is consistent with the skilled attendants’ training. Previous findings from AJK have also reported that the mothers who had their childbirth in a health facility, attended by health workers, were more likely to initiate breastfeeding within the first hour of birth¹².

Many researchers have found that the quality of education and training for health workers could greatly progress the initiation of breastfeeding and period rates if health workers say the same to the patients with guidance and thus proceed to provide treatment^{13,14,15}. Extensive research has shown that mothers require active support to establish and maintain adequate breastfeeding practices. The breastfeeding decision has been influenced by a wide range of factors, including demographics, behavior and experience, medical advice, and the involvement and support of family members¹⁶.

Our study showed dramatic results regarding early breastfeeding when proper awareness was given to mothers. Before the POCQI intervention percentage of early breastfeeding was low only 22% of the newborn was breastfed and 78% not breastfed. In contrast with proper guidelines and due to the effectiveness of POCQI intervention the percentage of newborns breastfed increasing only 26% of newborns were not early breastfed and 74% of newborns early breastfed before one hour. We provided support to the mothers during the neonatal counseling sessions of their hospital visits and through telephonic conversations as performed in other studies¹⁷.

This study found that without any awareness and lack of POCQI intervention newborn infants were more at risk of delayed breastfeeding. This could be due to poor intervention in infants is one of the challenges to neonatal survival in AJK. Therefore, future breastfeeding promotion programs should focus on immediate breastfeeding of infants due to the effect of POCQI. In addition, small newborns need support for feeding; therefore, nurses and health workers must receive training in the care and support of low-birth-weight newborns.

The important aspect of POCQI is that it presents an easy approach that has already been applied in various hospitals in the world, and it fulfills outcomes without

any extra needs. The knowledge of professionals is more important regarding the applications of this model in the hospital where deliveries are being conducted and EIBS are delayed. In AJK private sector hospitals where deliveries are conducted have been linked to an increased risk of delayed EIBS. In order to strategy and implement effective plans to strengthen the practice and promote success in the newborn sample, it is significant to recognize the issues related to slowing breastfeeding and potential obstacles and facilitators for early initiations^{18,19}.

In places where home deliveries are more common, cultural norms of family members and community midwives play their role in initiating breastfeeding. The poor knowledge of the family members and traditional midwives regarding the advantages of EIBS is another reason for the bad presentation of this indicator of in-home deliveries. Mother and family members believe that colostrum could cause cramps in the abdomen, are not easy to digest, and therefore should be wasted. In newborns, a number of factors have been seen as responsible for delaying EIBS. These are prematurity, cleft palate, low birth weights, cerebral palsy, and APGAR score less than eight in the fifth minute's delay factor in EIBS.

Based on study findings, it is recommended that the programs aimed at advancing the usefulness of early breastfeeding should not only focus on the first time or young mothers but also should be designed to target all women in the community irrespective of age. It is important to create supportive environments for mothers for early breastfeeding initiation. This analysis highlights the role of POCQI intervention in AIMS hospitals which could lead to a significant decrease in neonatal morbidity and mortality rate. Considerable training of birth attendants should be established so that they can make sure the early initiation of breastfeeding. POCQI intervention should be introduced in hospitals and health facilities to improve early initiation of breastfeeding i.e. within an hour after birth. Similarly, the government should make it a part of the curriculum in public health schools and nursing college levels. Raising education, awareness, and proper guidelines at the community level before and during pregnancy can also lead to an increase in the percentage of early initiation of breastfeeding and thus improving maternal and child health indicators. The education of both parents and expanded target groups to include elders and husbands, before and after delivery is an essential component of early breastfeeding. In addition, it is necessary to consider the development of peer counseling interventions to improve breastfeeding practices.

Conclusion

The study gives evidence for more need to enhance breastfeeding uptake in AJK. The prevalence of EIBS was low before the implementation of the POCQI model, but it improved significantly after its application.

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