

Early Initiation of Breastfeeding in a Tertiary Care Hospital

By

Nishtha Sharma

*Dissertation submitted in partial fulfillment of the requirements of the degree
MBA Hospital and Health Management*

Academic year, 2017-2019



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TO WHOMSOEVER MAY CONCERN

This is to certify that Dr. Nishtha Sharma, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at Yashoda Super Speciality Hospital, Kausambhi, Ghaziabad from 5 February to 5 May

The Candidate has successfully carried out the study assigned to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.

A handwritten signature in blue ink, appearing to read 'Pranshu'.

Dean, Academics and Student Affairs

The IIHMR University, Jaipur

15 May 2019.

A handwritten signature in blue ink, appearing to read 'Mohan Baising'.

Asst. Professor

(Mohan Baising)

The IIHMR University, Jaipur



The certificate is awarded to

Name- Dr. Nishtha Sharma

In recognition of having successfully completed her

Internship in the department of

Name of Department - Quality and Operations

And has successfully completed her Project on

Early Initiation of breastfeeding in Tertiary Care hospital

Date- 5 February 2019 to 5 May 2019

Organization – Yashoda Super Speciality Hospital , Kaushambi, Ghaziabad

She comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning

We wish him/her all the best for future endeavors



Dr. Ashish Pawar

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Certificate of original work

THE IIMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled Early initiation of breastfeeding in a tertiary care hospital... and submitted by Dr.Nishtha Sharma.....Enrollment No. 0613...under the supervision of Dr.Mohan Bairwa for award of MBA in Hospital and Health Management in Health and Hospitals of the University carried out during the period from ...5 February 2019 to 5 May2019 .embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Nsharma

Signature

ABSTRACT

Providing mother breast milk to infants within one hour of birth is termed as “early initiation of breastfeeding” and ensures that the infants receives the colostrum or “first milk”, which is rich source of protective factors for the development of infants.. As institutional deliveries have increased so it’s important to monitor the early initiation of breastfeeding and to make some logical efforts to remove the barrier to early initiation of breastfeeding

Aim and Objective –

- a) To determine the the rate of early initiation of breast feeding in a tertiary care hospital
- b)To Improve the first hour breastfeeding Initiation rate by implementing PDCA Cycle as quality improvement method and determining early initiation rate again.

Methodology -

- Research Question –what are the operational methods for improving the rate of early initiation of breast feeding in a tertiary care hospital
- Research Design - Observational Cross sectional study and quality improvement study using PDSA cycle

Results: The rate of first-hour initiation of breastfeeding improved from 0% to 91% over the study period. The result was sustained even in the last PDSA cycle to 90%..

Conclusions: A QI approach was able to accomplish sustained improvement in first-hour breastfeeding rates in delivery cases.

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The internship opportunity with Yashoda Super Speciality Hospital was a great chance for learning and a great boom for professional development. I am also grateful for giving me chances to meet so many wonderful peoples and professionals who led me though this internship period at the hospital.

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I perceive as this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way.

Sincerely,

Dr. Nishtha Sharma

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List of Symbols and Abbreviations

WHO	World health Organisation
EIB	Early initiation of breastfeeding
EBF	Exclusive breastfeeding
NFHS	National Family health survey
IMR	Infant mortality rate
MMR	Maternal mortality rate
U5MR	Under 5 mortality rate
MDG	Millennium Development Goals
OT	Operation Theater
OT Table	Operation theater table
LR	Labour room
LR Table	Labour room table
Post opt room	Post operative area
PDSA	Plan – do – Study- Act
NVD	Normal vaginal delivery
LCSC	Lower segment Cesarian section
UNICEF	United Nations Children’s Fund
DHS	Demographic and Health Survey
QI	Quality improvement

INTRODUCTION

Whether delivery takes place in a rural village or a big hospital or other facilities in cities, feeding newborns with breastmilk within the first hour after birth benefits the child and makes them disease free. To make the early initiation of breastfeeding a key measure of essential newborn care in the Every Newborn Action Plans is important (1)

Reduction in the incidences of neonatal deaths can contribute substantially towards achieving the Under 5 Mortality Rate (U5MR) and IMR targets of the Millennium Development Goals. WHO had also recommended that the breastfeeding is extremely important to get initiated in all the new born babies within one hour of life or of their birth and it is referred as early initiation of breast feeding. (1)

National Family Health Survey (NFHS-4), also revealed that only 41.6% of newborns in India were breastfed within one hour of birth, and its last round (NFHS-3; 23.4%) but is far from ideal. (2)

For the five-year period before the 2015-16 NFHS, the neonatal mortality rate was 30 deaths per 1,000 live births in India. The under-five mortality rate as compared to all states is highest in "Uttar Pradesh" (78 deaths per 1,000 live births) and lowest in "Kerala" (7 deaths per 1,000 live births) (3). The percentages of children that start feeding within one hour of birth is lowest in Uttar Pradesh state (25%); the only states in which more than two-thirds of children are breastfed within one hour of birth are states like Goa, Mizoram, Sikkim, and Odisha (3)

Improving breastfeeding practices could save the lives of more than 800,000 children under 5 every year and majority of whom are under six months of age (4)

Globally, the rate of early initiation of breastfeeding are tracked using data from multiple household surveys, like Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS). Many low and middle-income countries undertake such household surveys within every four to five years of last surveys, while many high-income countries track breastfeeding through hospital registries and other data systems available, these data are not collected using standard global indicators (such as breastfeeding initiation within the first hour of life) and but therefore not internationally comparable. (5)

UNICEF's 2016 report had shown that from the First Hour of Life the presence of a medical doctor, nurse or midwife actually did not support the early initiation of

breastfeeding in most of low- and middle-income countries. In countries like Europe and Central Asia, where almost all births are attended by skilled providers, only 65 per cent of infants delivered by a skilled health providers and they began breastfeeding within the first hour of life and in countries like South Asia, the early initiation rate in the presence of a skilled provider was much lower, which is 34 percent (5)

In a recent meta-analysis done by the Agency for Healthcare Research and Quality reviewed this evidence in detail (4)

- For newborns , not being breastfed is associated with an increased incidences of infectious morbidity, like otitis media, gastroenteritis, and pneumonia, not only this it is also associated with elevated risks of childhood obesity, type 1 and type 2 diabetes, leukemia, and sudden infant death syndrome (SIDS).
- For premature infants, not receiving breast milk is also associated with an increased risk of necrotizing enterocolitis (NEC).
- For mothers, failure leads with an increased incidences of premenopausal breast cancer and ovarian cancerand diseases like retained gestational weight gain, type 2 diabetes, and the metabolic syndrome

Advantages of Breastfeeding

- A) Timely initiation of Breastfeeding ensures that infants receiving colostrum – first breast milk contains many antibodies and nutrients required for healthy growth and development process for the child
- B) It is very critical for achievement of many of the Sustainable Development Goals. Feeding can improves nutrition (SDG2), prevents child mortality and decreases the risk of non-communicable diseases (SDG3), and also supports cognitive development and education (SDG4) which play important role in children life
- C) Breastfeeding is also an enabling to ending poverty which helps in promoting economic growth and reducing inequalities in country. It also benefits national

wealth, by helping to lower the health care costs and also by increasing educational attainments and ultimately boost the productivity. Indeed being breastfeeding is one of the most cost effective investments available (6)

The following WHO definitions were used :(4)

1.Terms- Initiation of breast-feeding:

It is the time when baby is placed “skin-to-skin” with themother and offered the breast milk for the first time after birth.

2. Timely initiation of breast-feeding: means

percent of infants (0 - < 12 months) who were put to the breast within one hour of delivery

Calculated as:

Number of infants (0< 12 months) put to the breast within 1 hour of delivery x 100

Total number of infants (0< 12 months)

LITERATURE REVIEW

Author	Study	Sample size	Study design	Salient feature
Farhana Karim etal August 2018	Initiation of breastfeeding within one hour of birth and its determinants among normal vaginal deliveries at primary and secondary health	249	A case-observations	Initiation of breastfeeding within one hour of births can averted to 22% of newborns mortality. Many factors influences breastfeeding practices including

	facilities in Bangladesh:(7)			mothers' socio-demographic and Obstetric. Among 249 mothers observed in the facilities that only 67% initiated feeding within first hour of birth at health facilities and median time to was 38 minutes .
Dr. Sami Ulus etal 2017 Mar 15	Early initiation-first hour feeding and exclusive breastfeeding: Factors influencing the attitudes of mothers who gave birth in a baby-friendly hospital(8)	A total of 350 mothers aged ≥ 20 years who gave birth in the hospital participated in the study on	Cross sectional study	Demographic characteristics and obstetric history and information about breastfeeding initiation were collected at the hospital and informations about factors affecting feeding practices of the newborns

		a voluntary basis or by its own consent		obtained at the end of six months study period Results Some 97.4% of the mothers initiated breastfeeding and 60.1% womens initiated within the first hour of birth. Exclusive breastfeeding was maintained for six months in 38.9% womens
Sankalp Dudeja et al June 13, 2018.	Improving First-hour Breastfeeding Initiation Rates After Cesarean Deliveries (2)	About 8-10 cesarean sections are conducted per day, which account for 40% of total deliveries	Quality improvement study	planned a quality improvement process involving a series of Plan-Do-Study-Act (PDSA) cycles adopted to improve the rates of first hour initiation of breastfeeding
Mam tarani et al	Persuade-mothers in post -	600	Cross sectional study	a Pretested semi-structured

	natal wards for timely initiation of breastfeeding (9)			questionnaire was used for conducting interviews of hospitalised mothers Out of all deliveries , breast feeding was timely initiated only by 1.0 percent of mothers and 30 percent initiated breast feeding within two hours
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OBJECTIVES –

- a). To determine the the rate of early initiation of breast feeding in a tertiary care hospital
- b). To Improve the first hour breastfeeding Initiation rate by implementing PDCA Cycle as quality improvement method and determining early initiation rate again.

METHODOLOGY-

- Research Question – What are the operational method for improving the rate of early initiation of breast feeding in a tertiary care hospital
- Research Design - Observational Cross sectional study and Quality Improvement study using PDCA Study cycle as quality improvement method

Study Setting - Yashoda SuperSpeciality Hospital, kaushambi, Ghaziabad

Study area-

- (a) Labor Room
- (b) patient room
- (c) Post-Operative Area
- (d) Operation Theatre

- Study Population - Inpatient Pregnant women residing NCR regions
- Inclusion criteria -
- Stable newborns ≥ 35 weeks of gestation born and weight more than 2500 gms by cesarean section under spinal anesthesia and by normal vaginal delivery

(Babies were classified as preterm, term, post term according to period of Gestation

Preterm were the babies born up to- 36 completed weeks of gestation ,Term were the babies born between 37-41 weeks of gestation and Post term were the babies born at 42 or more weeks of gestation)

Exclusion criteria- hemodynamically unstable, had

(a) respiratory distress ,

(b) encephalopathy in whom feeding would be risky

(c) in whom mother was sick (e.g., eclampsia, or comatose) or where breastfeeding was otherwise drugs, or HIV-infected who had opted for top feeds)

Limitation- timings 7pm- 9 am

Research Procedure-

Data collection-

The delivery cases were followed from time of birth till the initiation of Breastfeeding. Time of birth was recorded though the hospital record and the time of shifting and the time of initiation was recorded though observation.

Study duration- 65 days – 10 February 2019 to 1 may 2019

Sampling technique – convenience sampling

Sample size- 152 – (total observed cases in study duration)

Steps followed for baseline study -

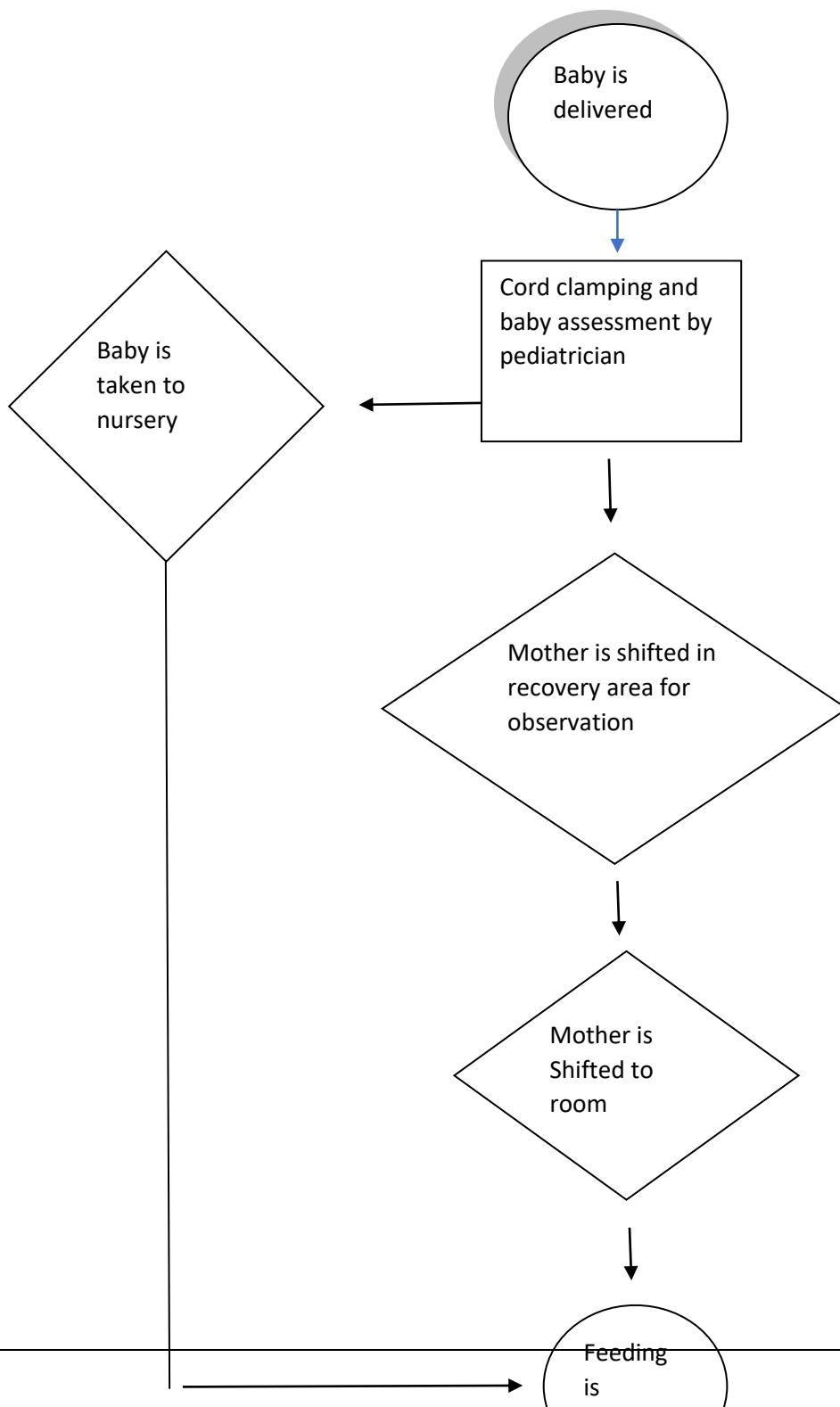
- (a) Observing cases for initial 15 days and calculating the compliance of first hour initiation of breastfeeding in hospital by following the delivery cases
- (b) Eliciting possible reasons for delayed initiation of breastfeeding by fishbone analysis by following cases.

Steps for improving the early initiation of breastfeeding rate

- (c) With Plan- do-study-act- cycle (PDSA) quality improvement method, Trying to change and improve the process by implementing cycles and measuring the rate of early initiation again after each cycle
- (d) For each PDSA Cycle , time of initiation of feeding and time of shifting to location of feeding was observed
- (e) Finally measuring the compliance of early initiation of breastfeeding at the end of the study.

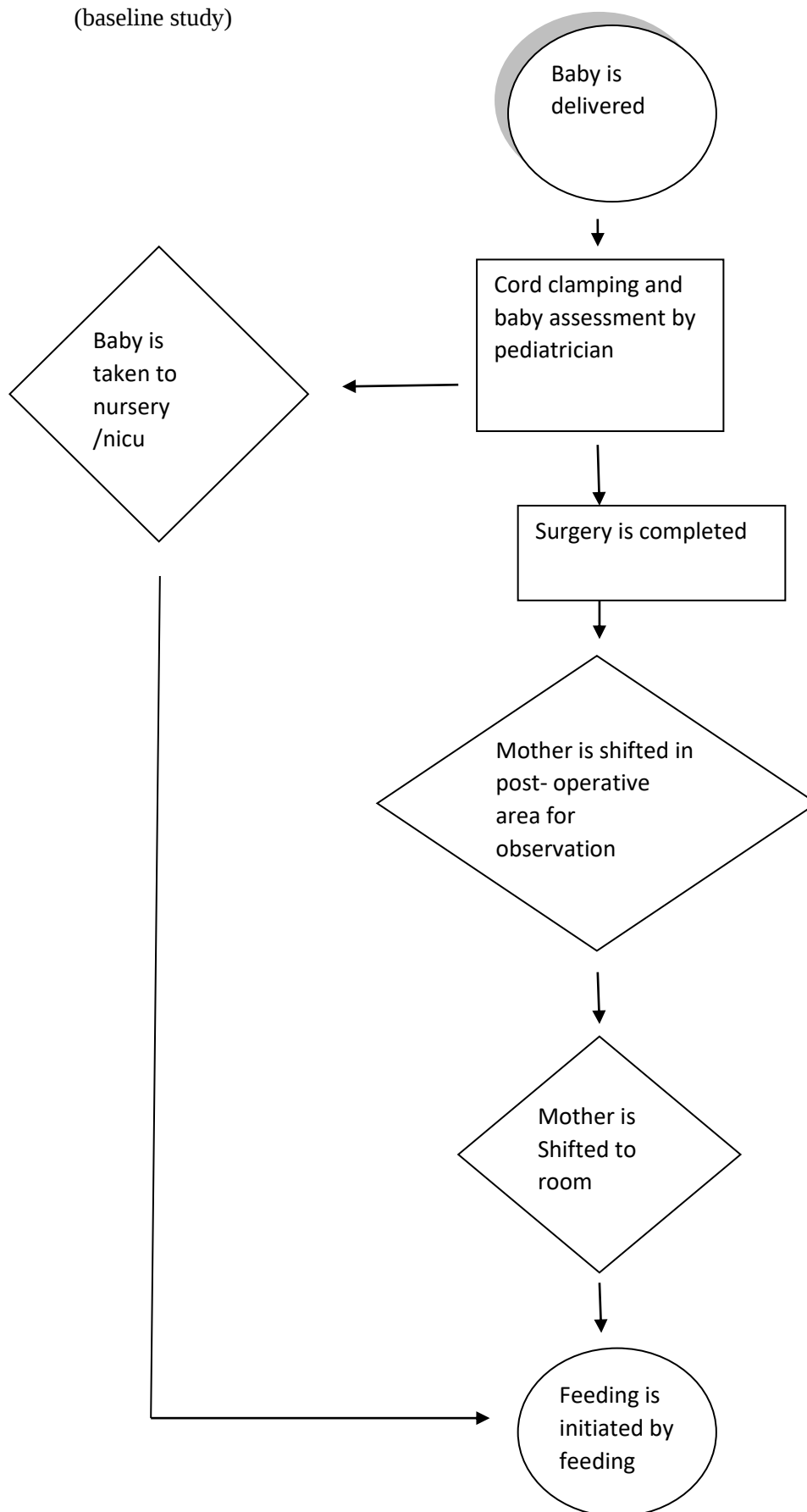
Data analysis plan

(FIGURE – 1.1) PROCESS MAP FOR NORMAL VAGINAL DELIVERY – baseline study



(FIGURE-1.2) PROCESS MAP FOR CESARIAN DELIVERY

(baseline study)

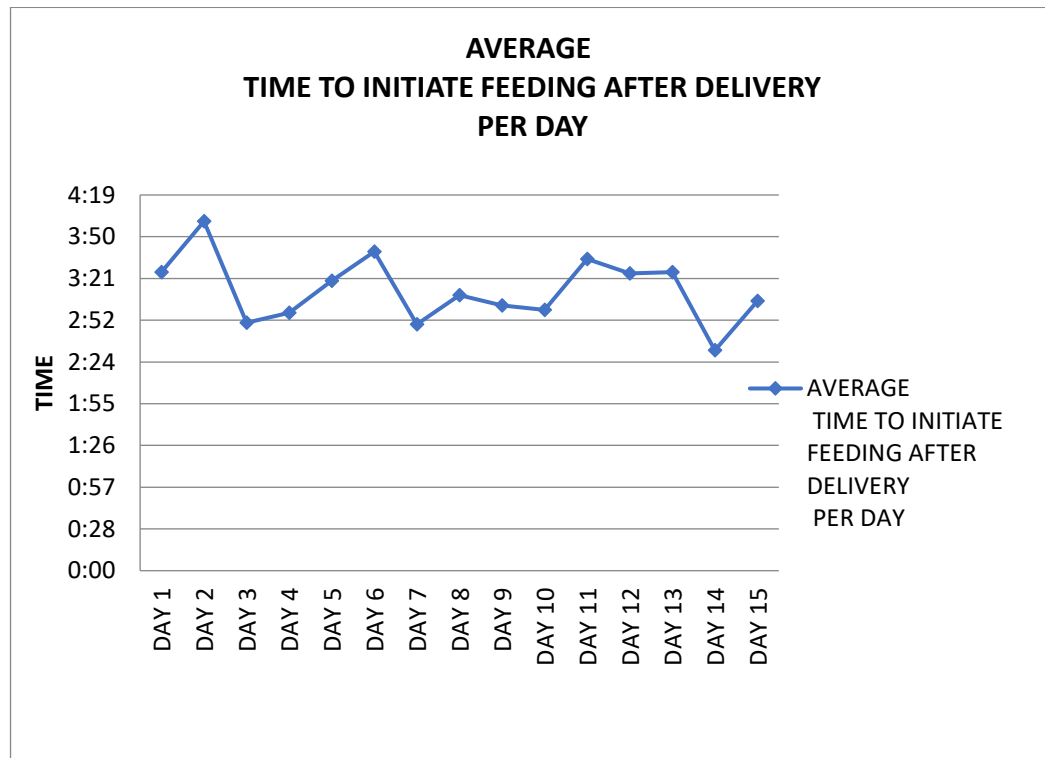


After following the process

Observed 43 cases and calculated average time taken to Initiate feeding after delivery for initial 15 days in the room

FINDINGS – BASELINE STUDY-

(FIGURE – 1.3)



After observing for 15 days –

TABLE-1.1 For normal vaginal delivery cases-

Average time to initiate feeding	2 hr 24 min
Average time taken to shift patient to room	2hr 12 min
Average time taken to initiate feeding in room after shifting	35 min

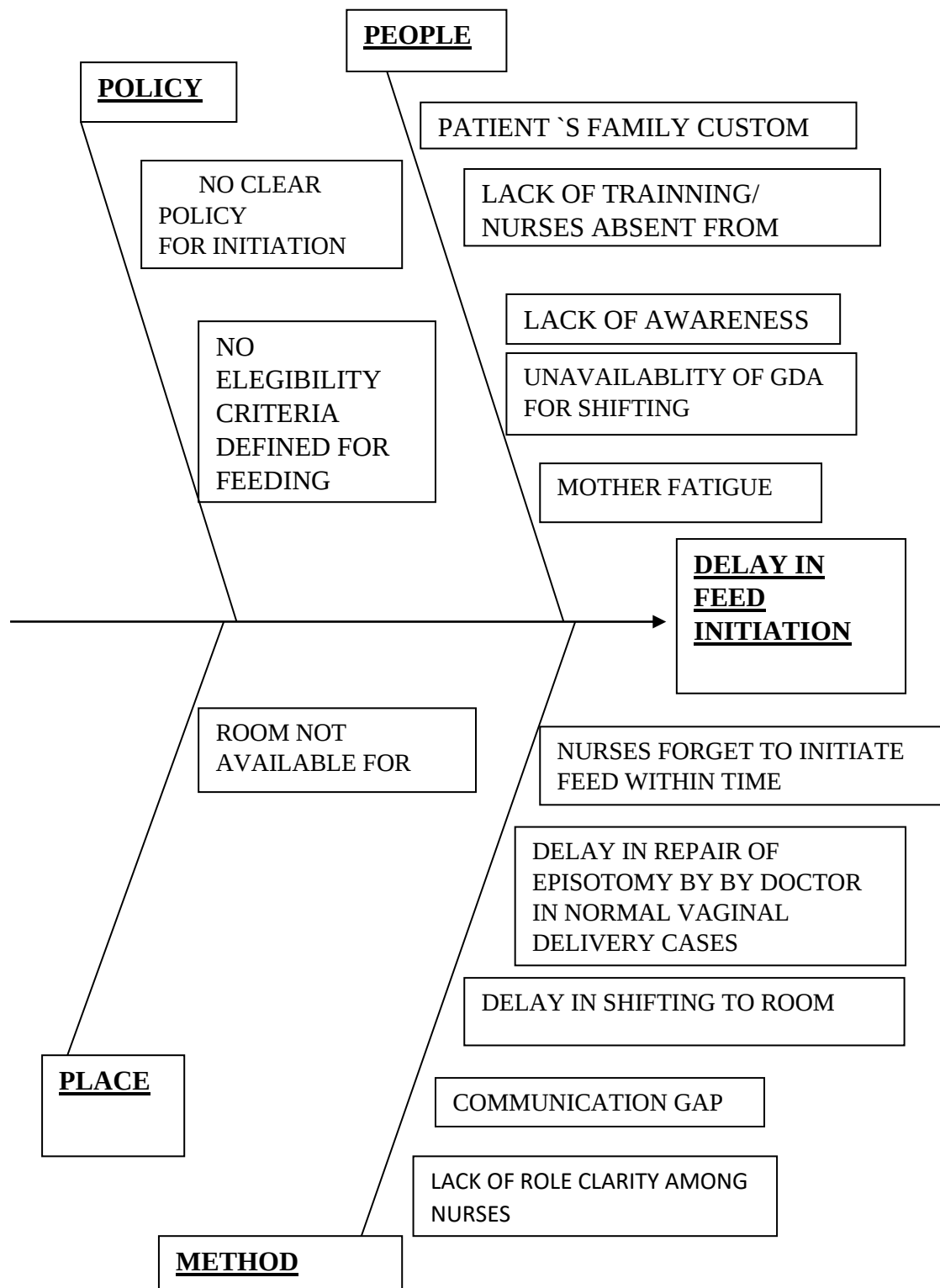
TABLE-1.2 For cesarean section under spinal anesthesia –

Average time to initiate feeding	<u>3 hr 32 min</u>
Average time taken to shift patient to room	<u>2 hr 45 min</u>
Average time taken to initiate feeding in room after shifting	<u>46 min</u>

RESULT- BASELINE STUDY

First hour breastfeeding initiation rate was 0% - non compliant and major problem observed was shifting of patients to room which takes more than one hour

(FIGURE 2) - FISH BONE ANALYSIS FOR FINDING ASSOCIATED REASONS FOR LATE INITIATION OF BREAST FEEDING AFTER DEIVERY



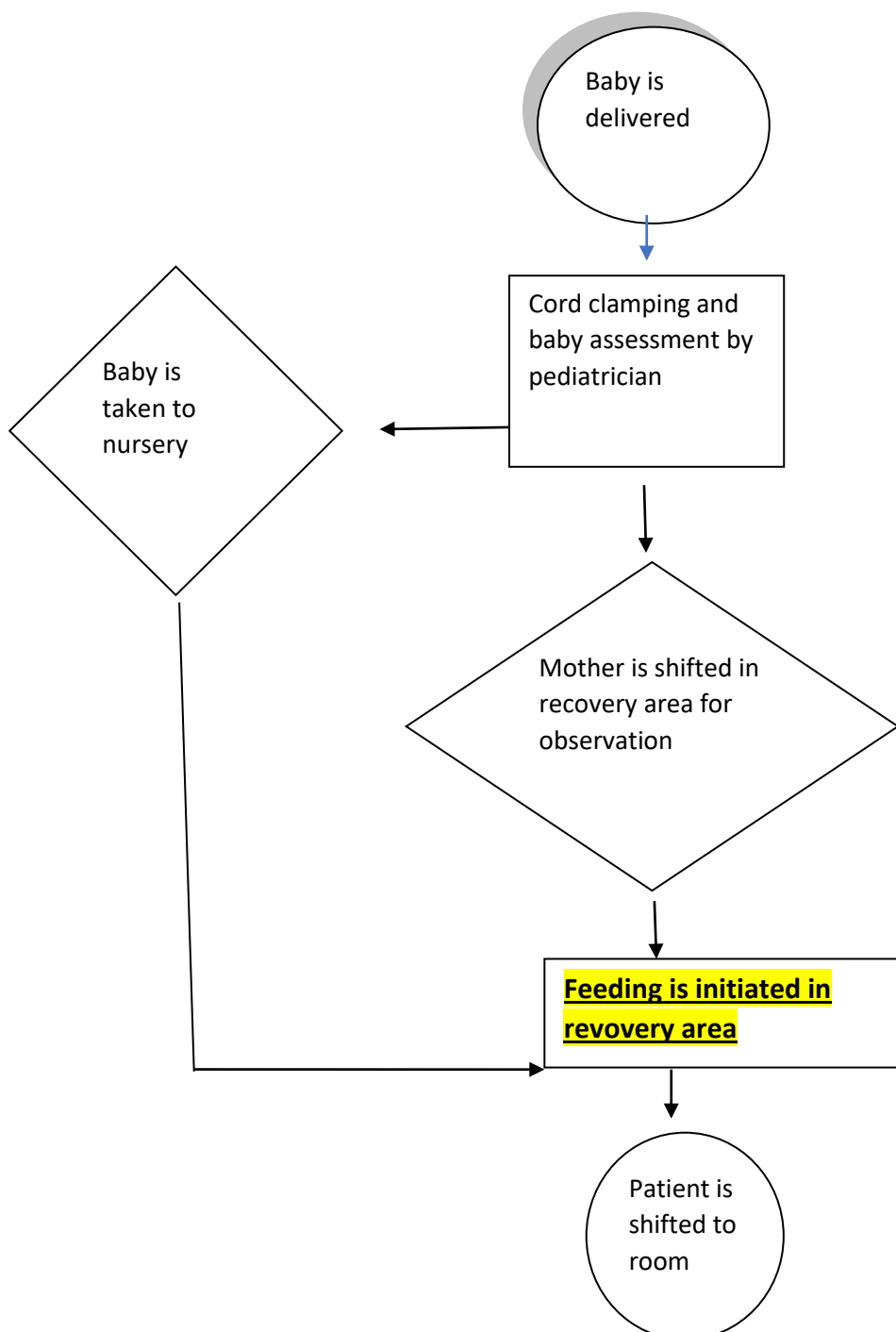
IMPROVEMENT PROCESS STARTED THROUGH- PDSA CYCLES-

PDSA-1 -

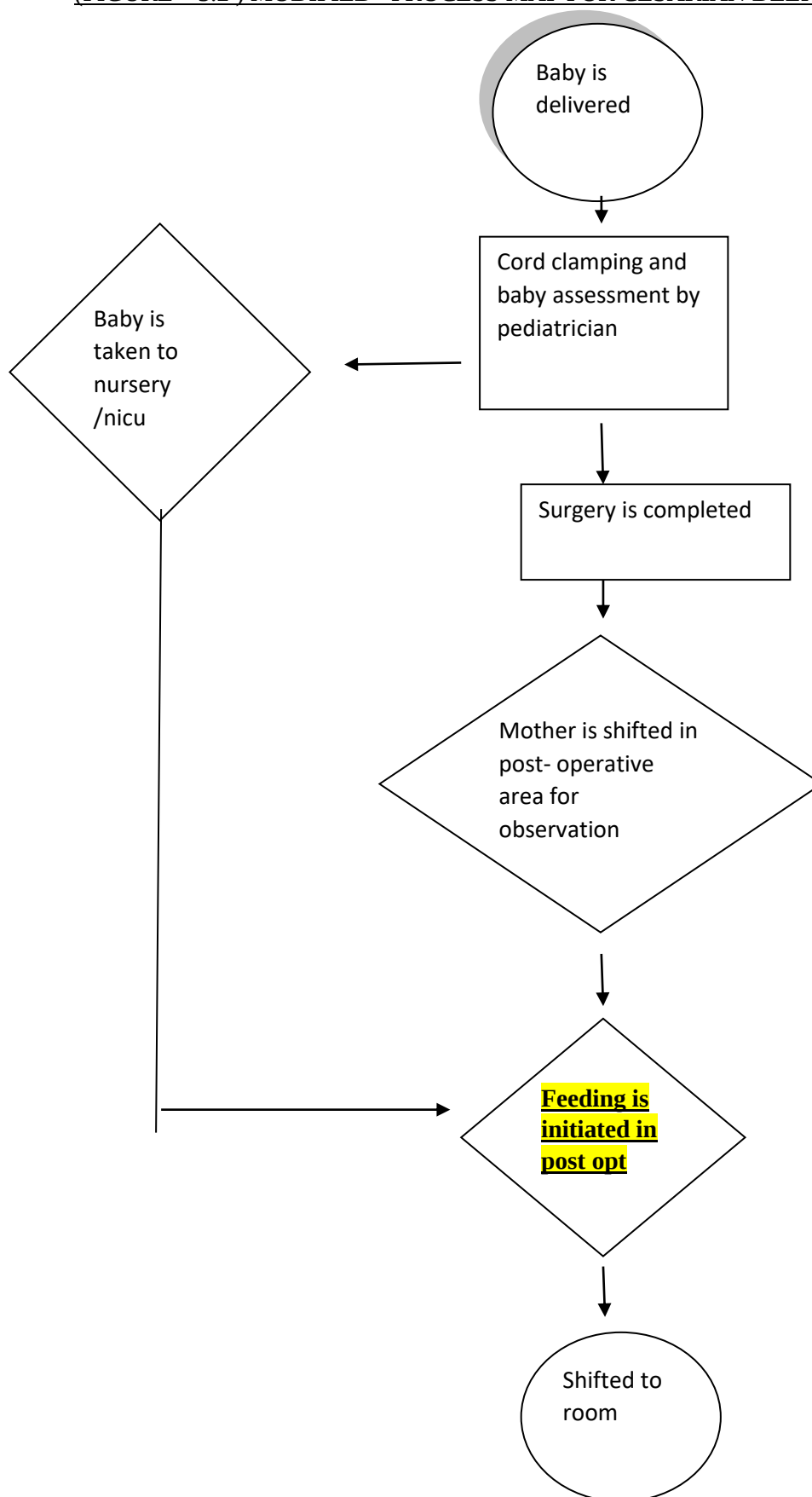
Changing the process map of the delivery process of both cesarean and normal vaginal delivery cases.

- 1- Caesarean delivery- mother is shifted to post operative area after the surgery is done and then feeding is initiated in post operative area.
- 2- Normal vaginal delivery- mother is shifted to recovery area in labour room and their feeding is initiated in labour room. (flow chart below)

(FIGURE – 3.1) MODFIED PROCESS MAP FOR NORMAL VAGINAL DELIVERY- PDCA 2



(FIGURE – 3.2) MODIFIED PROCESS MAP FOR CESARIAN DELIVERY- PDCA 2



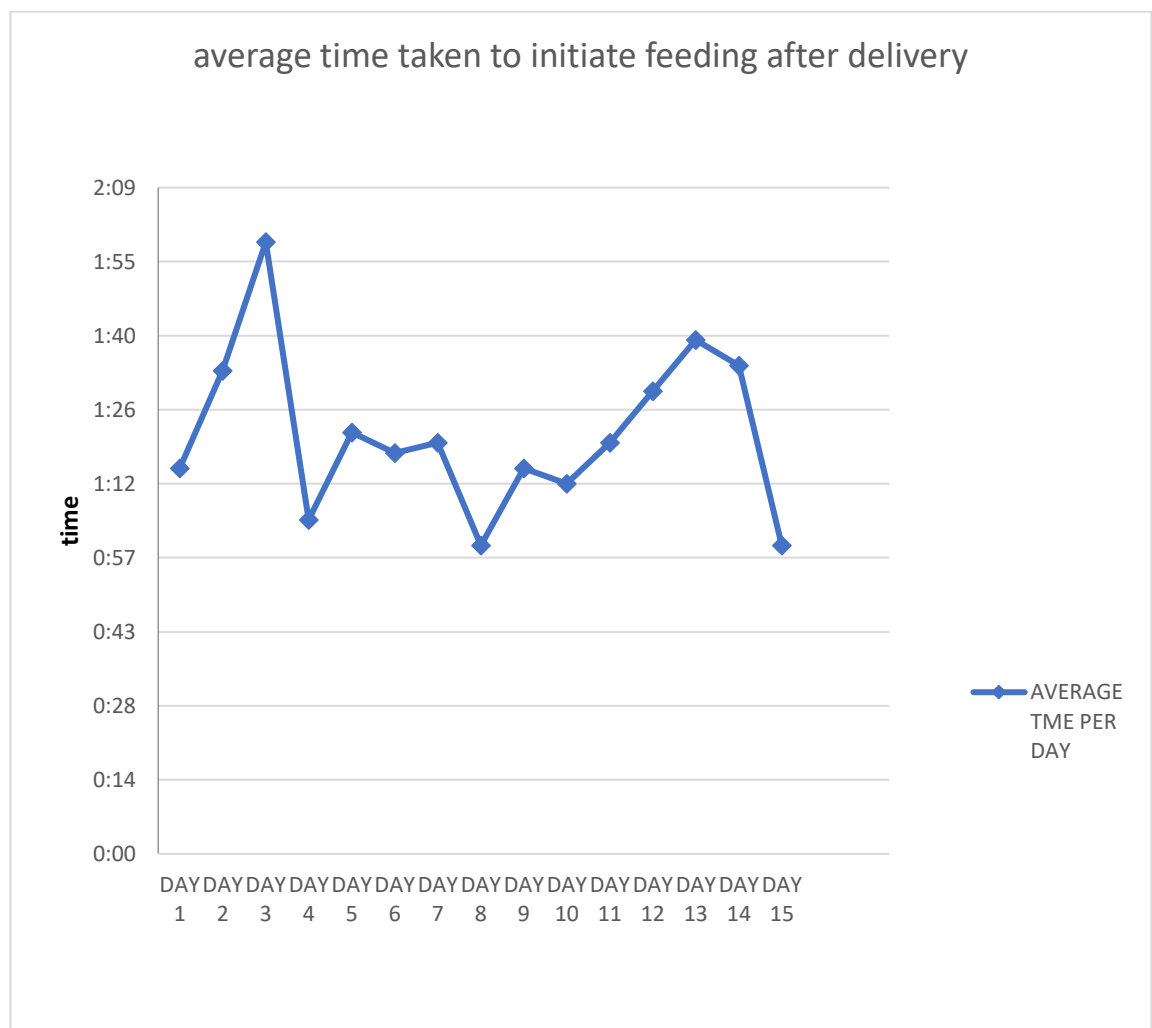
PDSA 2

we calculated the average time per day to initiate breastfeeding after delivery for 15 days in post operative area and labour room recovery area

PDSA 2-findings were-

cases observed – 40 including both cesarean and normal delivery

(FIGURE – 3.3)



(TABLE – 2.1) For normal vaginal delivery cases-

Details	Current trend	Previous trend
Average time to initiate feeding	1hr 12 min	2 hr 24 min
Average time taken to shift patient to recovery room	55 min 13 sec	2hr 12 min
Average time taken to initiate feeding in room after shifting	17 min	35 min

(TABLE-2.2) For cesarean section under spinal anesthesia –

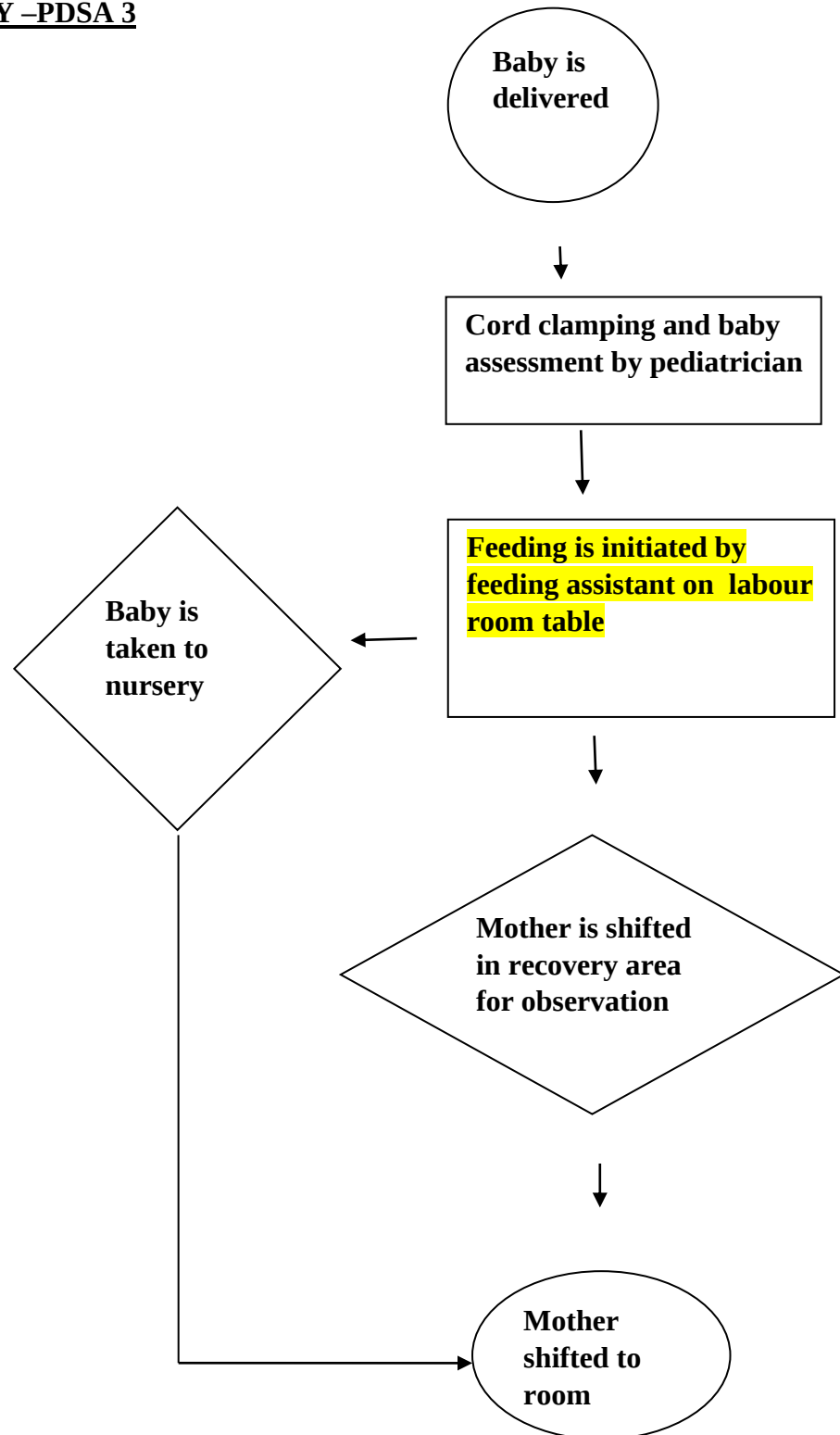
Details	<u>Current trend</u>	<u>Previous trend</u>
Average time to initiate feeding	<u>1hr31 min</u>	<u>3 hr 32 min</u>
Average time taken to shift patient to room	<u>1 hr 13 min</u>	<u>2 hr 45 min</u>
Average time taken to initiate feeding in room after shifting	<u>18 min</u>	<u>46 min</u>

RESULT OF PDSA 2-

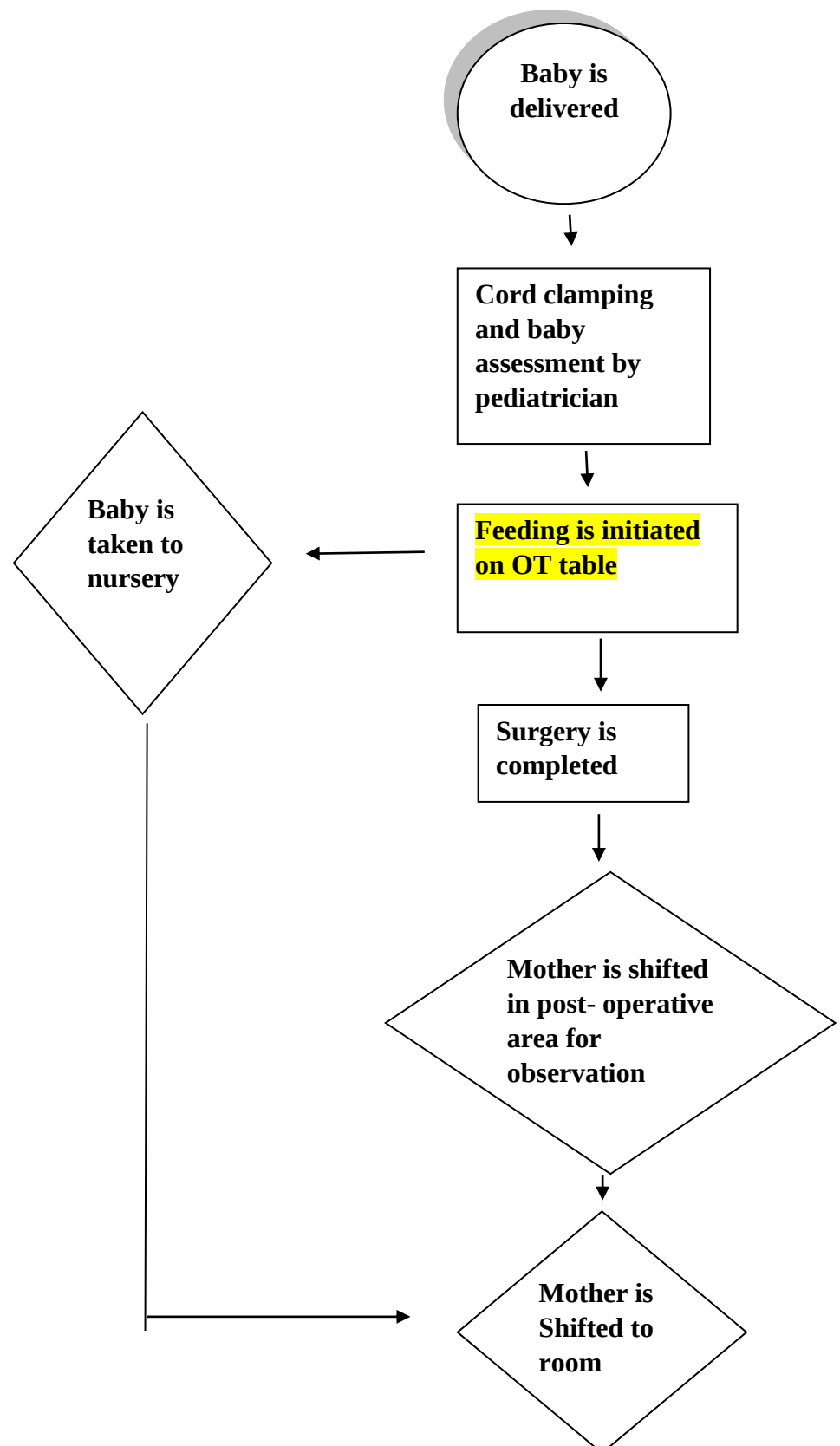
The first – hour breastfeeding initiation rate after delivery has improved to 23 % from 0% by initiating feeding in post operative area and recovery area of labour room

PDSA 3- Assessing the feasibility of initiation of breast feeding on OT table in case of caesarean delivery and on the LR table in case of normal vaginal delivery by modifying the process map

(FIGURE- 4.1) MODIFIED PROCESS MAP FOR NORMAL VAGINAL DELIVERY –PDSA 3



(FIGURE-4.2) MODIFIED PROCESS MAP FOR CESARIAN DELIVERY- PDSA 3



PDSA 4- Assessing the rate of early initiation of feeding in new born babies for 5 days in modified process of PDSA 3

FINDING OF PDSA 4-

Observed 17 cases, calculated average time to initiate feeding after delivery in OT/LR

FIGURE-4.3

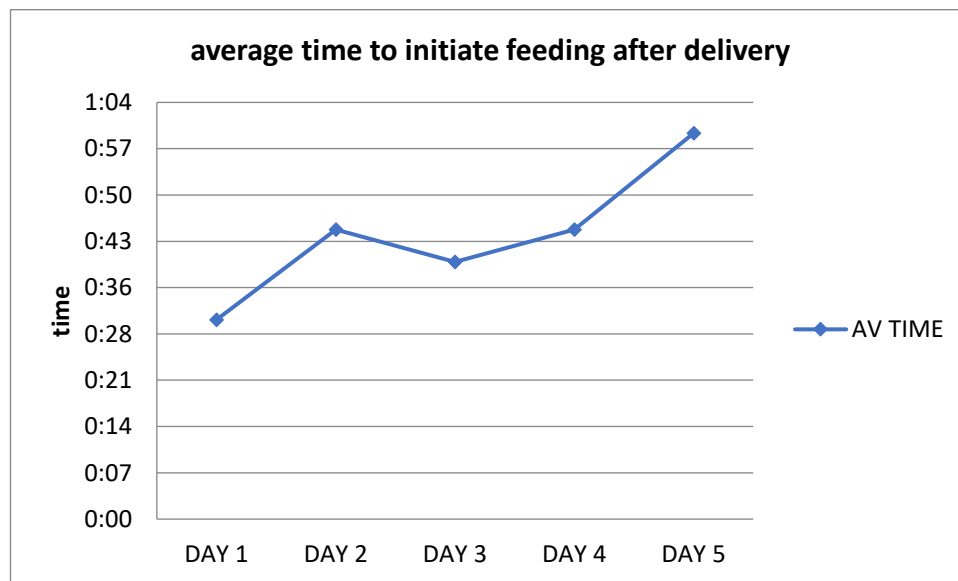


TABLE- 3

Details	Current trend	
Average time to initiate feeding on OT table in OT	50 min 50 sec	
Average time to initiate feeding on LR table in Labour room	44 min	

RESULT – PDSA 4

the first – hour breastfeeding initiation rate after delivery has improved to 59 % from 23% by initiating feeding on LR/ OT TABLE

PDSA 5- Assessing the rate of early initiation in new born babies after putting reminders and clarifying feeding criteria. Feeding assistant allotted for feeding in OT and in labour room for 15 days

FINDING- PDSA 5-

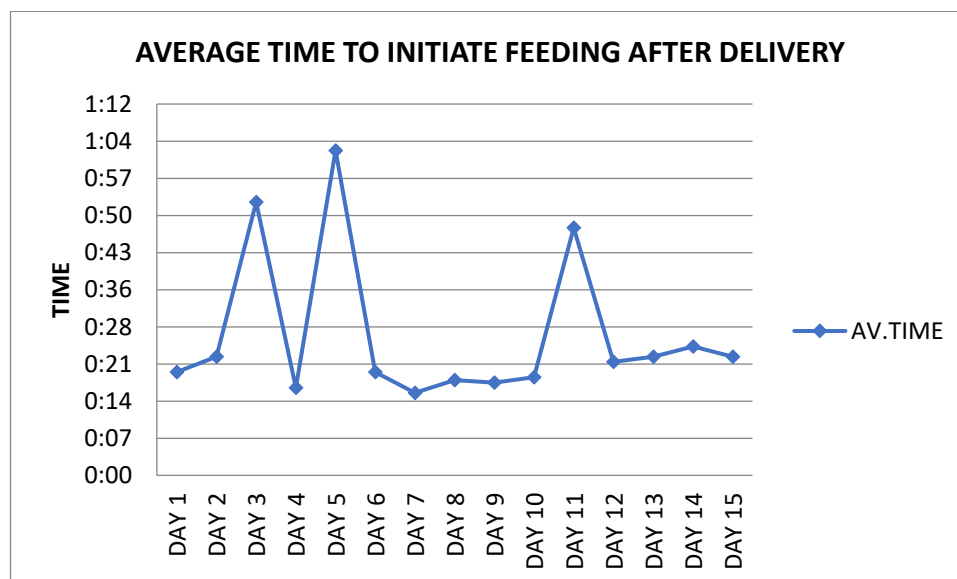
Observed – 32 cases

Calculated average time to initiate feeding on OT table / LR table

TABLE -4

average time to initiate feeding on OT table	25 min
average time to initiate feeding on OT table	20 min

FIGURE-4.4



RESULT- PDSA 5-

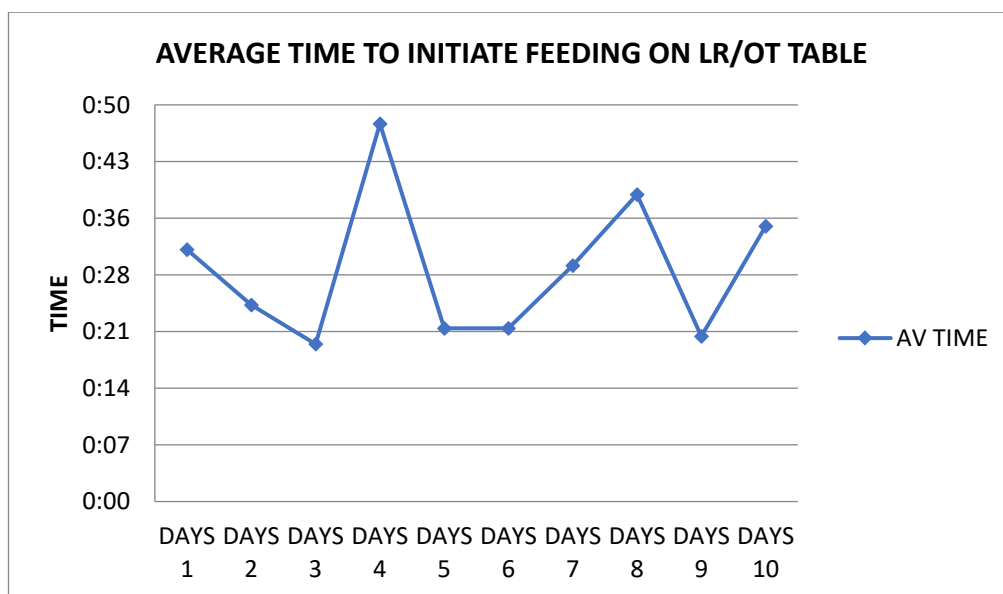
the first – hour breastfeeding initiation rate after delivery has increased to 91% from 59% by initiating feeding on OT Table / LR Table

PDSA 6 SUSTAINANCE PHASE –

Assessing the rate of early initiation in new born babies for 10 days on OT table /LR table

FINDING- PDSA 6

FIGURE-4.5



FINDING PDSA 6

Observed 20 cases

Calculated average time to initiate feeding on OT table / LR table

TABLE-5

Details	Current trend	Previous trend
---------	---------------	----------------

average time to initiate feeding on OT table / LR table	29 mins 24 sec 21 min	25 min4 sec 20 min
---	--------------------------	-----------------------

RESULT- PDSA 6-

the first – hour breastfeeding initiation rate after delivery maintained at 90%

(TABLE- 6) DETAILS OF ALL PLAN – DO – STUDY – ACT CYCLES

<u>PDSA</u>	<u>PLAN</u>	<u>DO</u>	<u>STUDY</u>	<u>ACT</u>
1	Changing the process map of the delivery process of both cesarean and normal vaginal delivery cases a)Caesarean delivery- mother is shifted to post operative area after the surgery is done and then feeding is initiated b) normal vaginal delivery- mother is shifted to recovery area in labour room and feeding is initiated in recovery area.	Feeding is initiated by feeding assistant after shifting	Lack of awareness among the staff	This changed idea is applied
2	Assess the rate of early initiation in new born babies with this new changed idea of conducting feeding in post operative area and recovery room in labour room for 15 days	Awareness is spread among the staff . Training sessions conducted for increasing efficiency	Shifting to post operative area after completion of surgery and to recovery area after all process, takes long time	Analyzing the situations
3	Assessing the feasibility of initiation of breast feeding on OT table in case of caesarean delivery and on the LR table in case of normal vaginal	(a)Baby is kept on mother `s breast by the circulating nurse during caesarean	Its feasible and observed that its not hampering surgical space , mother enjoyed the	This changed idea applied for further studies

	delivery	section during the suturing (b)baby is kept after delivery on mother`s breast and feeding is initiated by nurse during rest process is being completed	moment	
4	Assessing the rate of early initiation in new born babies for 5 days	Messages circulated among the staff about the new process	Reason for non compliance in OT- Circulating nurse become more occupied	More reminders , criteria need to be feedinf assistant allotted clarified and analysed the situations
5	Assessing the rate of early initiation in new born babies after putting reminders and clarifying feeding criteria. Feeding assistant allotted for feeding in OT and in labour room for 15 days	(a)Separate reminders on nursing station , anesthetists trolley (b)Mother couselling done for awareness about feeding within 1 hour	Compliance increased	Implementat ion expanded over more days
6	Assessing the rate of early initiation in new born babies for 10 days	Discussion with staff	Increased compliance maintained	Policy of early initiation of feeding formed , register is maintained by nurses for maintaining the data of feeding

Conclusion-

(FIGURE-5) Details depiction of all the PDSA Cycles - percentage of babies initiated in first hour

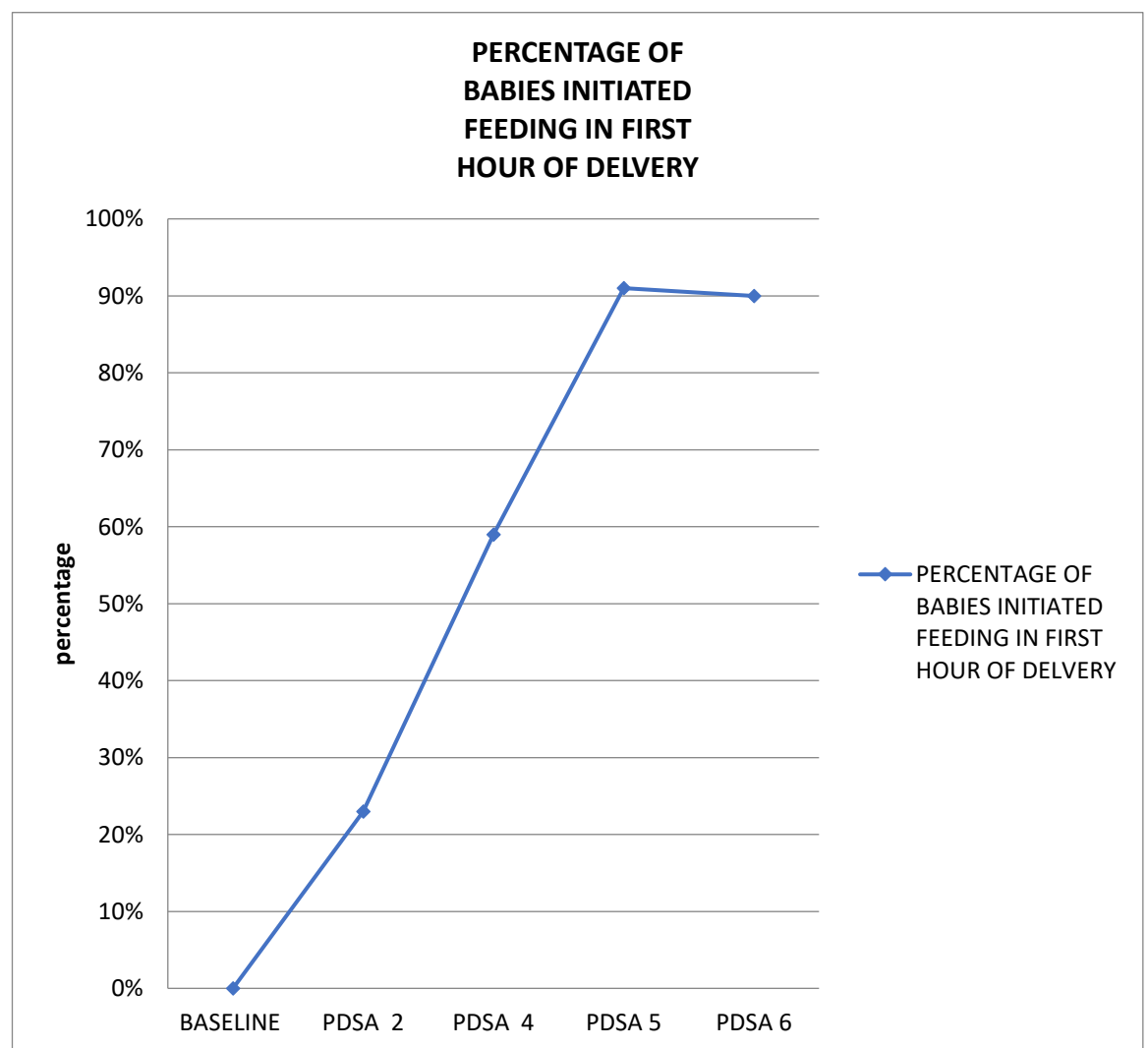
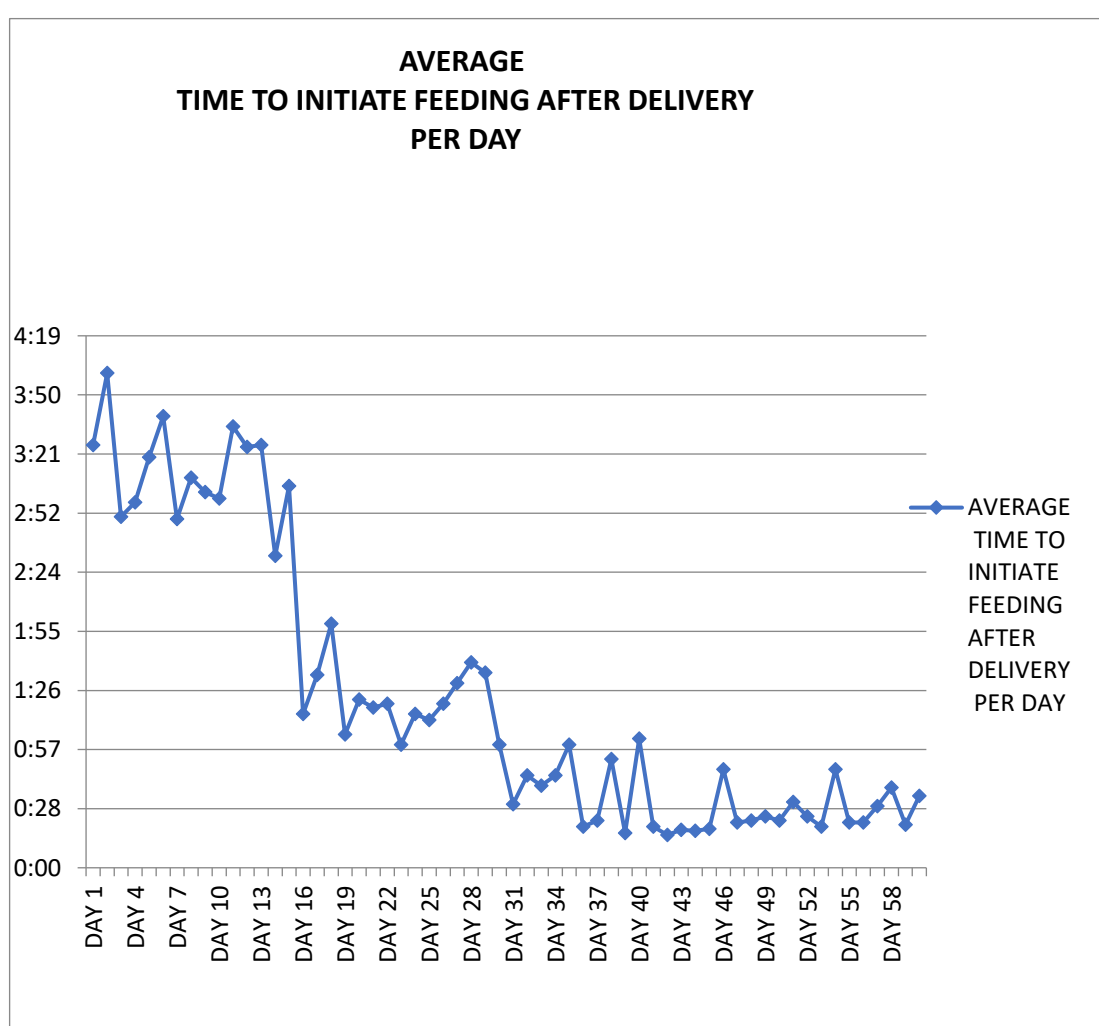


FIGURE- 6



We observed cases for 15 days in baseline study and analysed that the average time of initiation of breast feeding was 2 hr 24 minutes in babies born vaginally, while in cesarean section delivery it was 3 hr 32 minutes . None of the eligible babies delivered, put to breast within the first hour of birth by mapping every step preceeding the initiation of breastfeeding

A process map indicating all the steps and a fish bone diagram highlighting the possible root causes of delays in initiation of feeding (figure 1.1 , 1.2 , 2). We observed that after initial care, the baby goes to LR observation nursery, while the cesarean is yet to be completed and same for normal vaginal deliveries. After process is complete, and the mother shifted the ward/room , baby is brought to her for breastfeeding. This process takes more than one hour which results in delay in initiation of breastfeeding.

When the current process map was discussed in the team meeting main problems was discussed for example average time of shifting to room in normal deliveries was 2hr 12 min in addition to in cesarian cases was 2 hr 45 mins , so finally turning up with adopting PDSA Cycle it was decided that the only way to initiate breastfeeding within first hour in hospital was to reduce the shifting time. for this the process map was modified and feeding was initiated in post operative area in cases of cesarean deliveries and labour room recovery area for normal vaginal deliveries.

By doing this we improved the shifting time to 55 min 13 sec from 2 hr 12 min in normal delivery cases and for cesarian it was reduced to 1 hr 13 min from 2 hr 45 mins and the compliance rate also improved to 23 %

Then in next PDSA Cycle initiated feeding on the labour room table and OT table itself, before mother and baby are moved out of delivery area, initiating breastfeeding on the OT table during cesarean and on LR table was found to be feasible and acceptable to all. Therefore, this changed idea was further tested in subsequent PDSA cycles. It was planned that, after routine check up by paediatrician, all eligible babies would be put to mother's breast for feeding during cesarean section itself and in normal delivery cases. The circulating nurse would help the mother in holding the baby but it was found that it was increasing work load on nurse, so feeding assistant was allotted to initiate feeding in labour room and in OT. A flowchart was drafted about the suggested new process and circulated among the doctors and nurses. The change idea was, thereafter, systematically expanded to include more number of deliveries in subsequent PDSA cycles .

Various hurdles to achieve compliance which were noted in each PDSA, were rectified in the subsequent cycles (Table 6). Through the study, the rate of early initiation of breastfeeding was increased from 0% (baseline) to 91% (PDSA-5)(FIG. 7) .

The details of each PDSA cycle are given in Table 6. After completion of PDSA-6, we observed that compliance to first hour breastfeeding was sustained at 90% (Refer table -5) (Fig.9) Following this, a policy statement was developed with clear standard operating procedure (SOP) of how, in whom, when and who will initiate feeding after c deliveries. The documentation of early initiation of feeding was incorporated in the routine care o. To keep a track of ongoing rates of early initiation of breastfeeding, recording of feed initiation was incorporated in the nurses routine

So , finally early initiation feeding rate was improved to 91% from 0% which we observed in baseline study and sustained 90% in last PDSA .

Suggestions-

For maintenance of this process close monitoring and evaluation is required

Data of feeding should be maintained

Regular Training and education of staff

DISCUSSION

We demonstrated a significant and sustain improvements in first-hour breastfeeding initiation rates in infants by cesarean delivery and normal delivery in a hospital to make baby friendly hospital, with the help of using sequential PDSA cycles . As with any changes adopted in practice, initially there was reluctances and inertia to get adapted to changes among staff members of the hospital. However, by various techniques adopted like telephonic/ What's app reminders, gradually helped to get adapted to the suggested changed ideas Breastfeeding has many benefits for both the babies and the mothers and its best vaccine for child to live healthy life. Keys to successful breastfeeding includes maternal-infant skin to skin (STS) contact soon after birth, initiation within first hour of birth, limiting maternal-infant separations done after birth of baby. In addition to the benefits of breastmilk, putting the baby on breast also confers the other benefits of early skin to skin contact (10)

As per latest NFHS, rate of early initiation of breastfeeding in India is quite low (41.6%) (11). Cesarean sections are the biggest hurdles for early initiation in hospital settings

In previous studies the main reasons for not initiating feeding in hospital public hospital was lack of policies, demographic data , education level was discussed . In one study conducted in PGI Chandigarh(2) , they had implemented and improved the early initiation rate of cesarean section of hospital through PDSA cycles adopted and sustained to 93%.In this study the rate of early initiation of both normal and cesarean sections was improved by closely following the cases and following PDSA Cycles adopted for rectifying the problems faced

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Appendix-

1	15 days data - of casesarian cases										15 DAYS DATA - NVD									
2																				
3																				
4	DATE	TOB	SHIFTING	FEEDING	TOTAL	TIME	FOR	SHIFTING	TO ROOM	N+C	DATE	TOB	SHIFTING	FEEDING	TOTAL	TIME	FOR	SHIFTING	TO ROOM	
5	1-Mar	9:00 AM	12:00 PM	12:30 PM	3:30	3:00	0:30	1-Mar	3:30		1-Mar	11:00 AM	1:00 PM	1:20 PM	2:20	2:00	0:20			
6	1-Mar	2:00 PM	5:30 PM	6:30 PM	4:30	3:30	1:00	1-Mar	4:30		2-Mar	10:15 AM	1:15 PM	2:00 PM	3:45	3:00	0:45			
7	2-Mar	11:00 AM	2:00 PM	3:00 PM	4:00	3:00	1:00	1-Mar	2:20		4-Mar	12:15 PM	3:00 PM	3:20 PM	3:05	2:45	0:20			
8	2-Mar	9:00 AM	12:20 PM	1:20 PM	4:20	3:20	1:00	2-Mar	4:00		5-Mar	2:00 PM	5:00 PM	5:45 PM	3:45	3:00	0:45			
9	4-Mar	1:00 PM	3:10 PM	3:30 PM	2:30	2:10	0:20	2-Mar	4:20		7-Mar	10:00 AM	11:00 AM	12:00 PM	2:00	1:00	1:00			
10	4-Mar	3:00 PM	5:30 PM	6:00 PM	3:00	2:30	0:30	2-Mar	3:45		8-Mar	2:00 PM	3:30 PM	4:00 PM	2:00	1:30	0:30			
11	5-Mar	11:10 AM	1:00 PM	2:00 PM	2:50	1:50	1:00	4-Mar	2:30		9-Mar	11:00 AM	1:15 PM	2:00 PM	3:00	2:15	0:45			
12	5-Mar	3:10 PM	5:45 PM	6:15 PM	3:05	2:35	0:30	4-Mar	3:00		11-Mar	9:00 AM	11:30 AM	12:10 PM	3:10	2:30	0:40			
13	6-Mar	10:10 AM	1:00 PM	1:30 PM	3:20	2:50	0:30	4-Mar	3:05		12-Mar	10:35 AM	11:45 AM	12:35 PM	2:00	1:10	0:50			
14	6-Mar	2:20 PM	5:30 PM	6:00 PM	3:40	3:10	0:30	5-Mar	2:50		13-Mar	9:20 AM	11:30 AM	1:00 PM	3:40	2:10	1:30			
15	6-Mar	3:30 PM	6:00 PM	6:30 PM	3:00	2:30	0:30		3:05		14-Mar	11:30 AM	1:20 PM	1:30 PM	2:00	1:50	0:10			
16	7-Mar	9:00 AM	11:30 AM	2:00 PM	5:00	2:30	2:30		3:00		16-Mar	9:25 AM	1:00 PM	1:30 PM	4:05	3:35	0:30			
17	7-Mar	1:00 PM	4:00 PM	5:00 PM	4:00	3:00	1:00	6-Mar	3:20		16-Mar	4:00 PM	6:30 PM	6:45 PM	2:45	2:30	0:15			