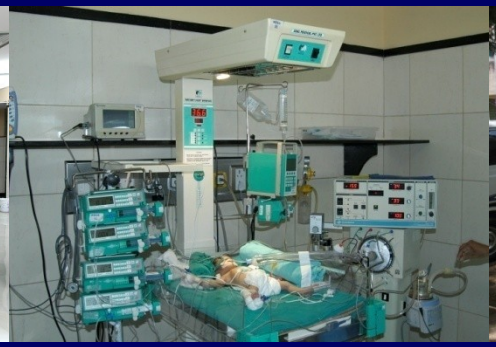



Department of Neonatology



Overview

- Facilities & Infrastructure
- Progress of NICU in last ten years
- Next five years – Horizons & Dreams

Aim

- World wide accepted neonatal management by well trained neonatologist at affordable cost for middle & low class family

Mission Statement

“ Patient is God”

“ Doctors, Staff & ancillary workers are equally important to a team’s success”

“ Success belongs to the whole team”

“ The onus of failure is that of the team leader”

Our theme

Hard work

Dedication

Team work

Innovations

Commitment

BHARATI NICU - Space & Beds

- 50 bedded NICU - spread over 10,000 sq feet.
  - Level III beds – 16 (Warmer, Ventilator, Multipara monitor, Syringe Pump, Infusion Pump, TPN)
  - Level II Beds – 14 (Warmer, Pulse oximeter, Syringe Pump, Phototherapy)
  - Level I Beds – 20 (Growing baby)
- Mother & relatives
  - Cots for mother – 30 (20 General & 10 Special rooms)
  - Cots for relatives – 20 (Bunk beds)

NICU- Level III – 16 Beds

Level III Care- Baby on HFO ventilation

Level III Care- Baby on Conventional Ventilation

Level III Care- Baby on Bubble CPAP

Level II care 14 beds - NICU Step Down Unit

Level I care 20 beds – Rooming in - growing baby with mother

Facilities

- One of the Largest NICU of Maharashtra with affordable cost
- Level III/II/I care for patient
- Advanced ventilation- HFO - (1 Sensor medics; 1 Fabian)
- Nitric Oxide Therapy
- Conventional ventilation – (11 Bear cub 750; 4 Fabian)
- Volume Guarantee Ventilation – (2 Dragear)
- Bubble CPAP system & HFNC – (4 Fischer & Paykel)
- HHHFNC System
- Surfactant administration
- In house Point of care Sonography & Functional Echocardiography

Facilities

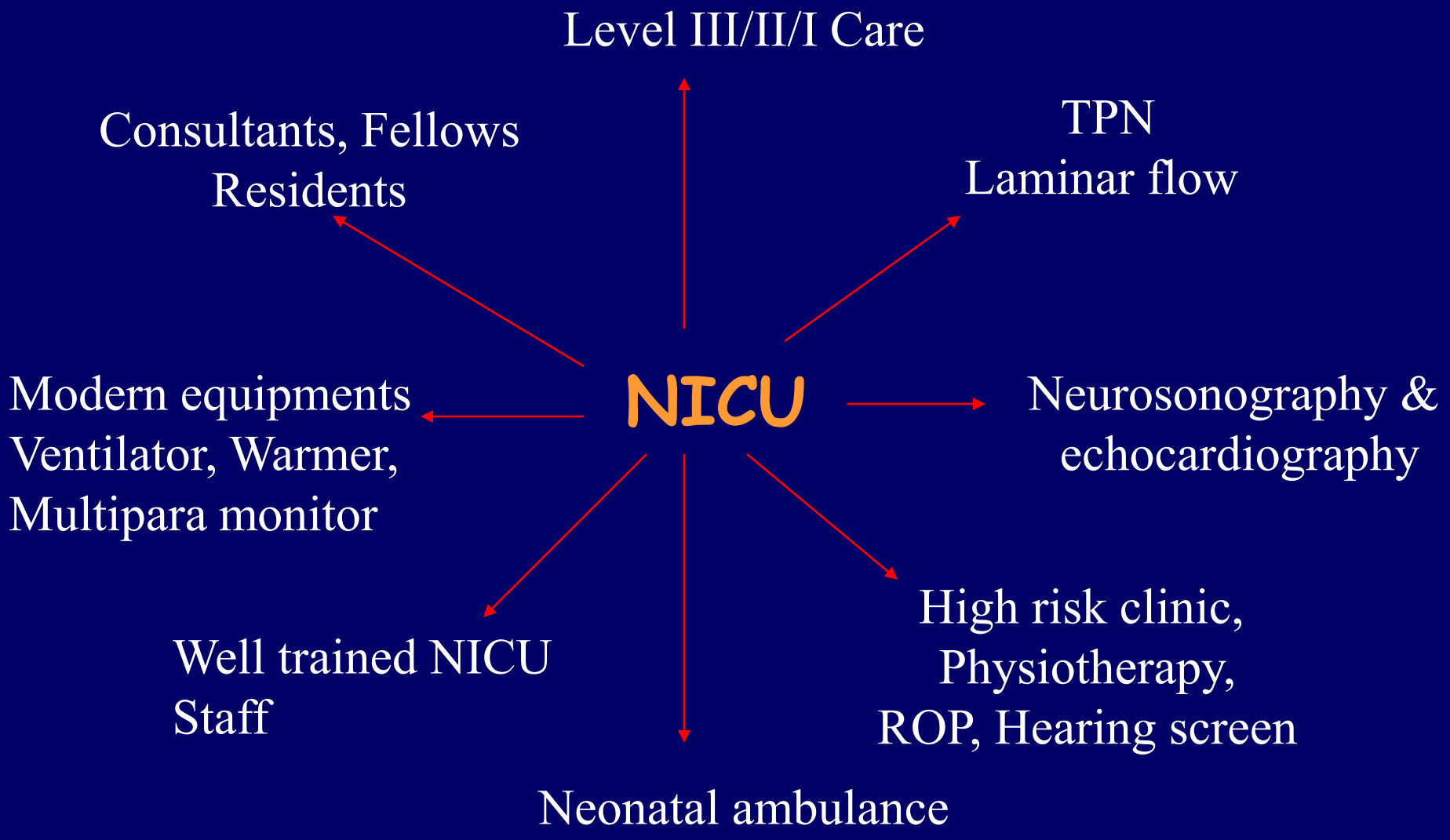
- Total Parenteral Nutrition
- In-house ABG & EEG
- In house transcutaneous Bilirubin meter
- In house OAE Screening
- 24 hour on call Paediatric Surgery team
- ROP Screening & LASER therapy for ROP
- Newborn Screening
- High risk developmental follow up unit
- Neonatal retrieval services
- Modern equipment

Facilities

- Bharati fellowship in Neonatology
- IAP / NNF Fellowship – DM Neonatology
- Neonatal fellow on duty -24 hours
- Daily counselling of patient
- Twice week update to referring physician
- Free accommodation for mother & relatives
- Computerized discharge summary
- Prayer room for patient relatives

Neonatal ambulance

- State of art, well designed
- Well equipped
  - Ventilator, Warmer
  - Syringe pump, Infusion pump
- Affordable cost
- Trained staff
  - Post doctoral MD Fellow
  - Level III Staff
  - Driver
- Contact : 020 24375542



State of art neonatal care under one roof

NICU Team

Professor & Head	1
Associate Professor	2
Assistant Professor	1
Senior Resident	5
Fellows	4
Junior Resident	6
Level III Staff Incharge	1
Level II Staff Incharge	1
Level I Staff Incharge	1
Nursing Staff for NICU	42
Social worker	1
Physiotherapist	3
Ward boy/Mavshi	10

Staff for 24 hour shift

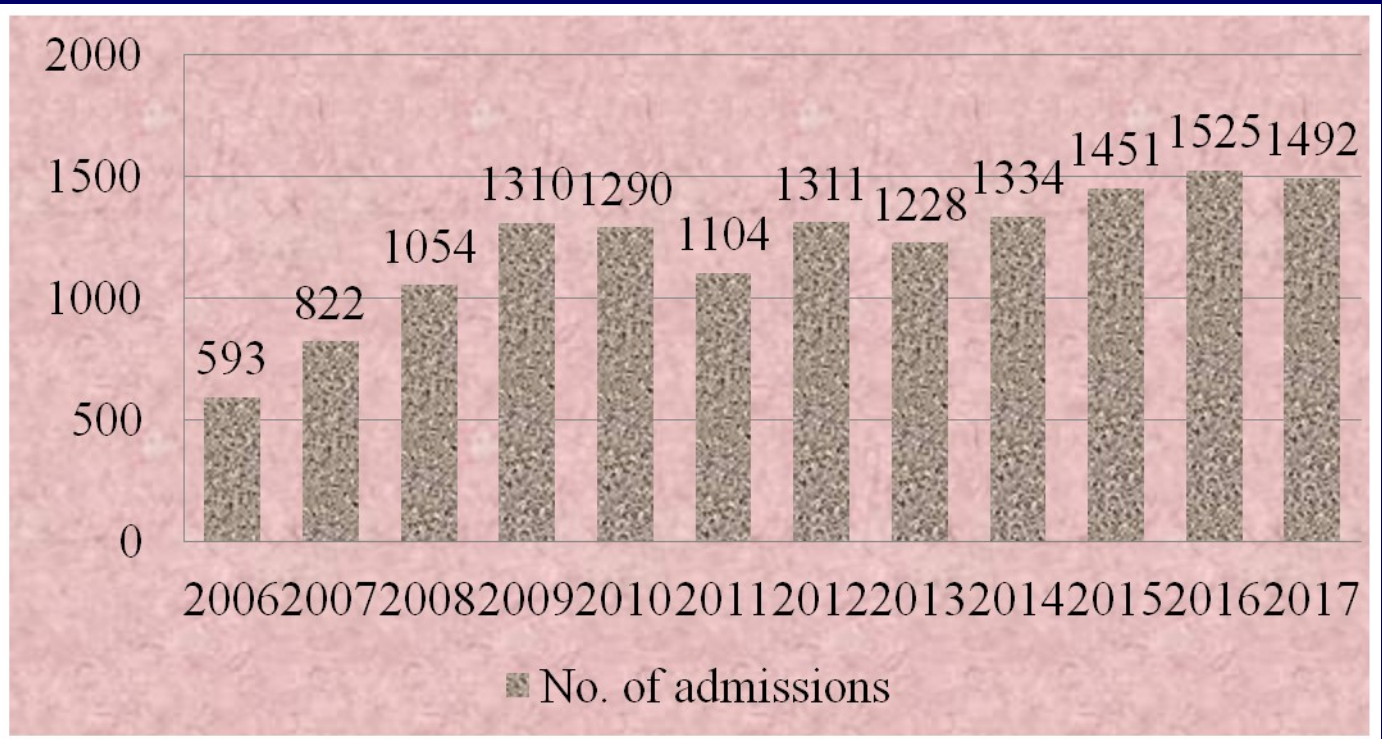
On call consultant	1
Level III Fellow	1
Level II Fellow	1
Retrieval fellow	1
Nursing Staff for morning shift	15
Nursing Staff for evening shift	12
Nursing Staff for night shift	11

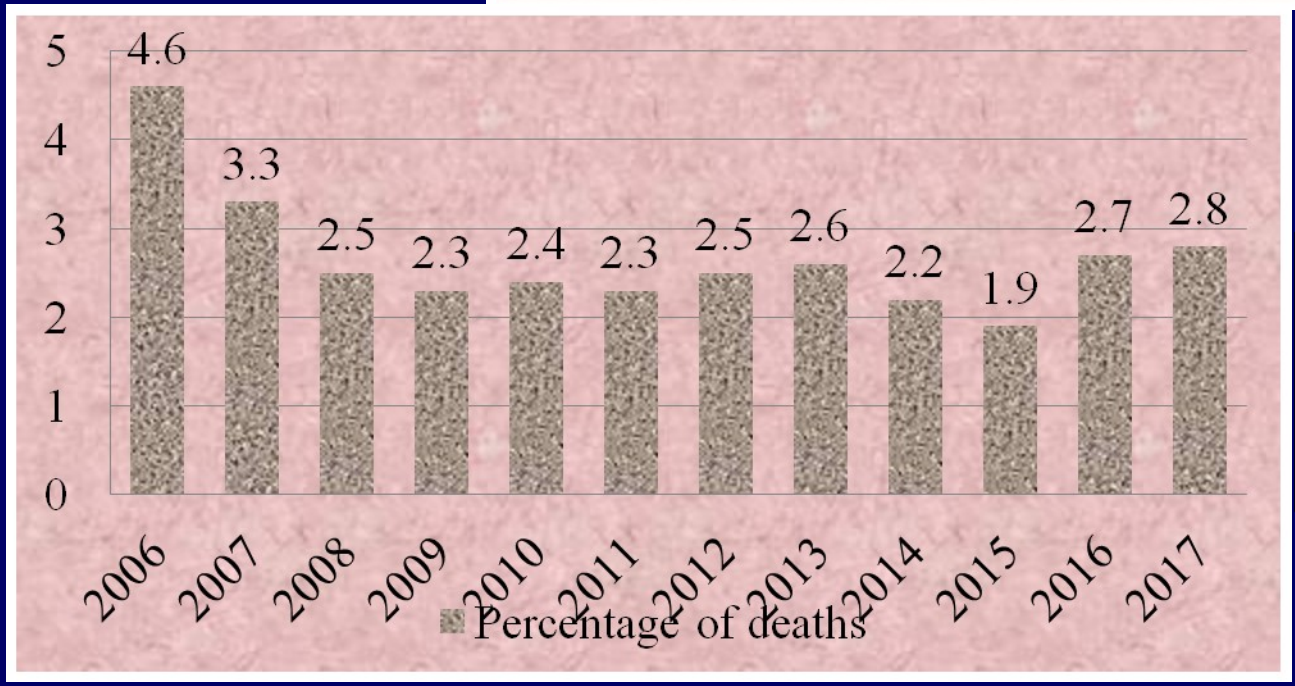
NICU – Facilities

- Better infrastructure
- Lowest cost
- Better Facilities
- 24 hour monitoring by Post MD Doctors
- All facilities under one roof
- Excellent communication with patient & referring doctors

Bharati NICU Results

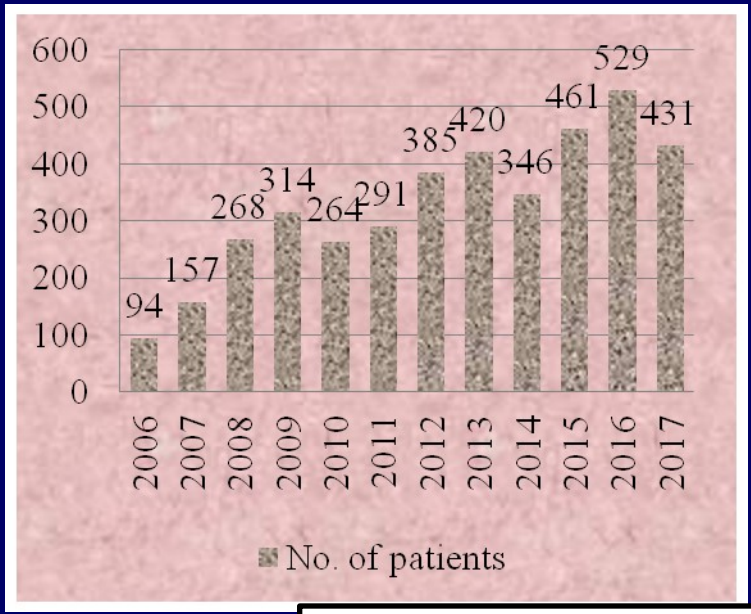
Admission data



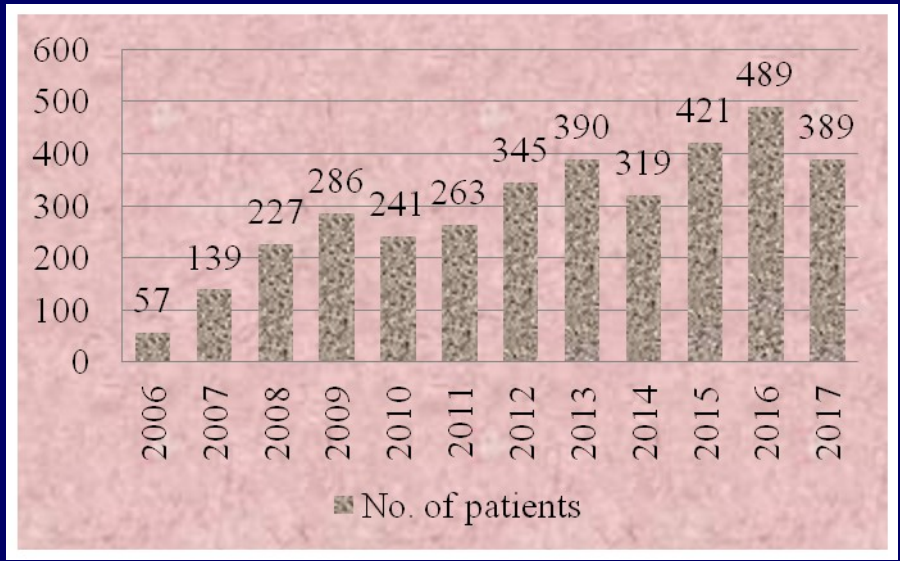


Percentage of death

Ventilation number

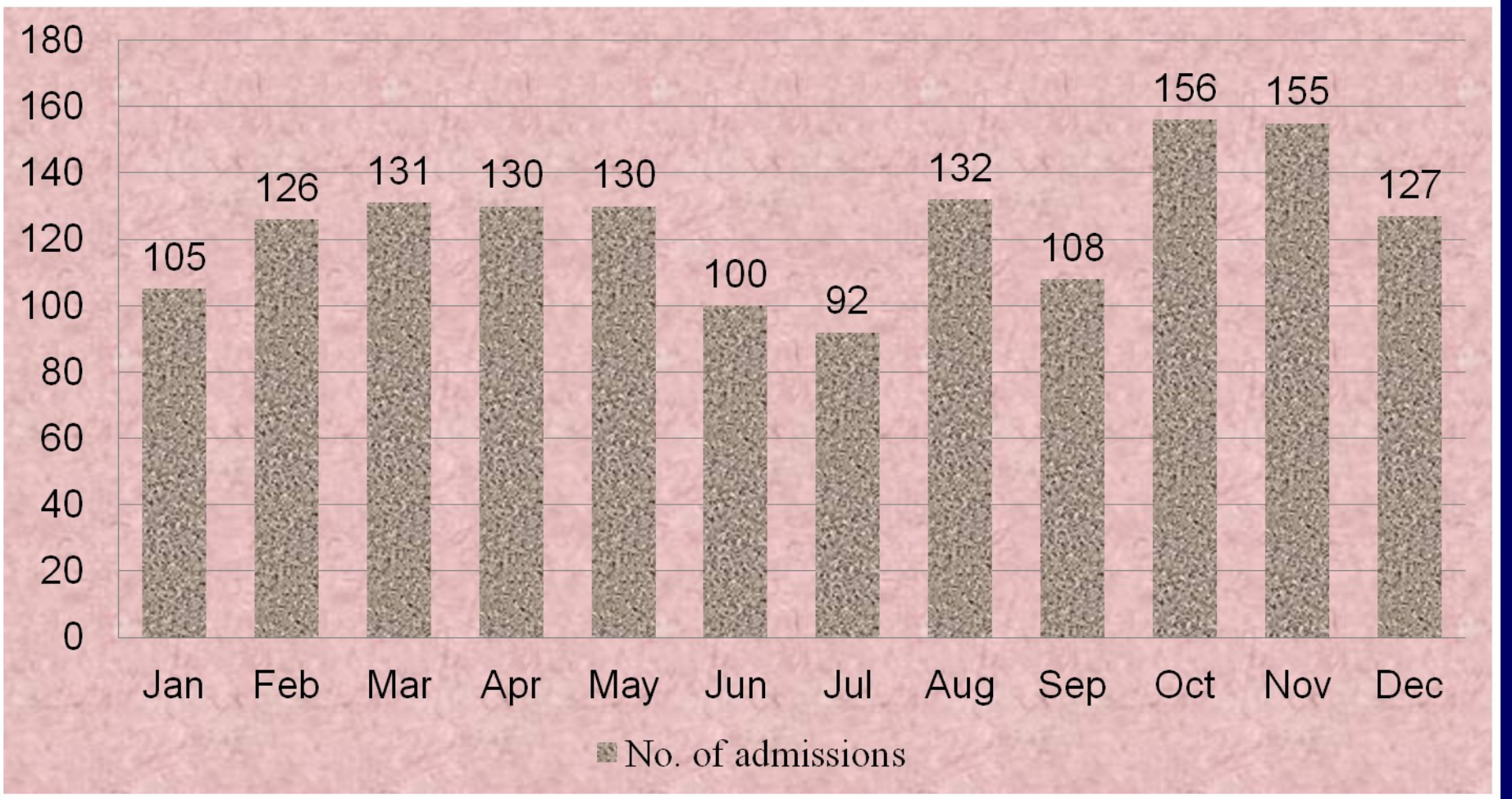


Ventilation survival number



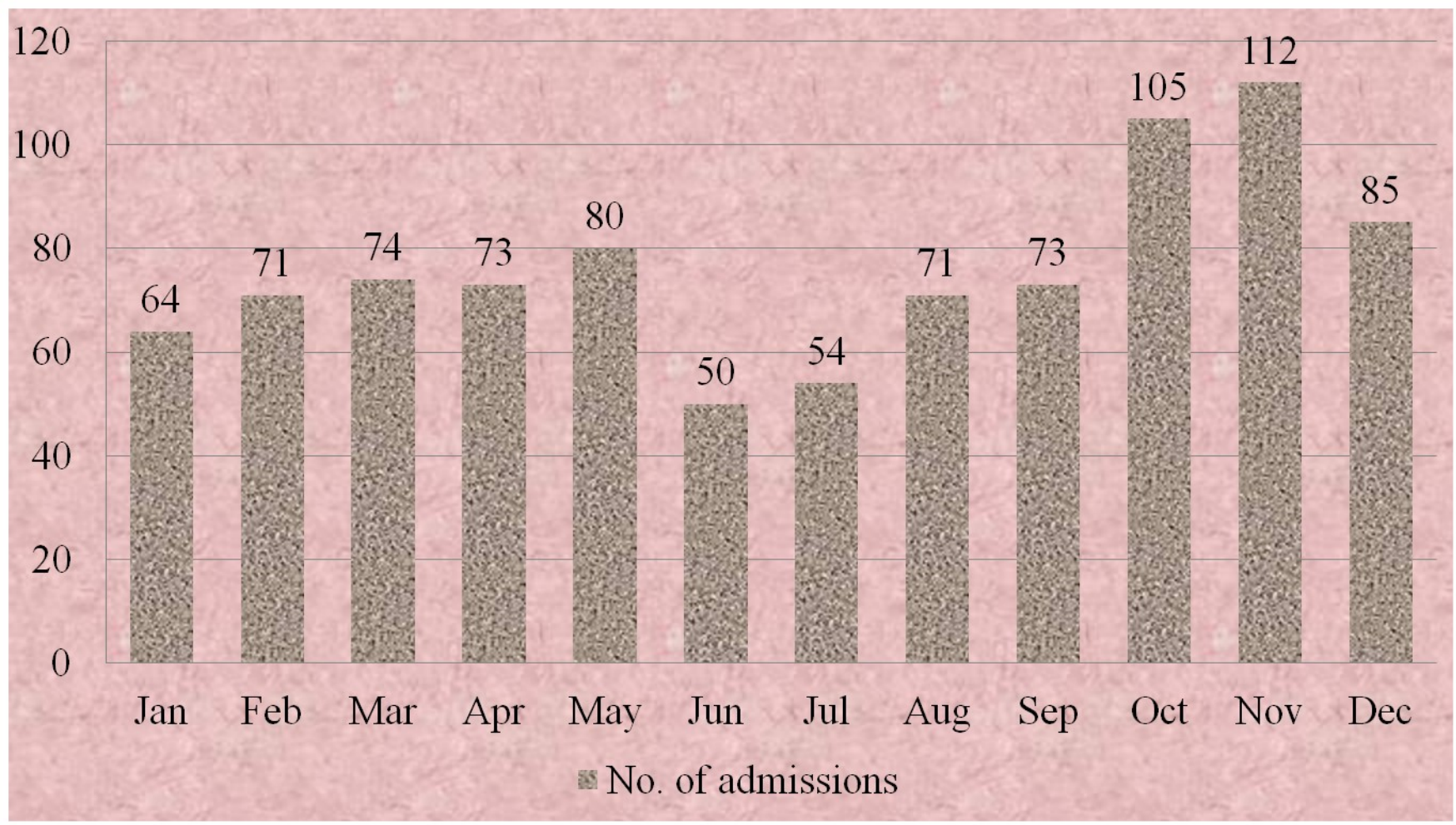
Ventilation survival Percentage

NICU admissions (1492)-2017



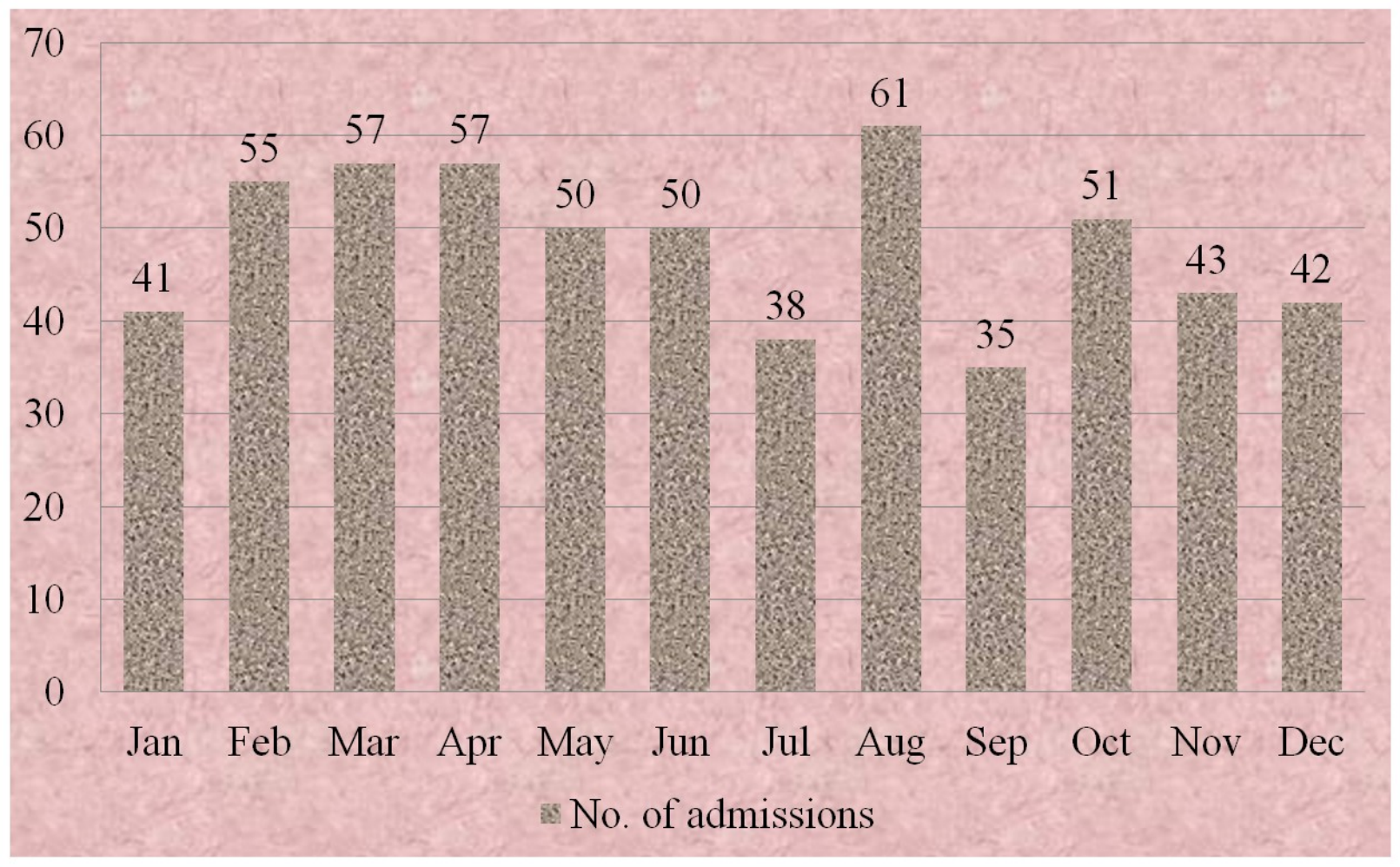
Average level III , II & I admissions= 124/month

Inborn admissions (912)-2017



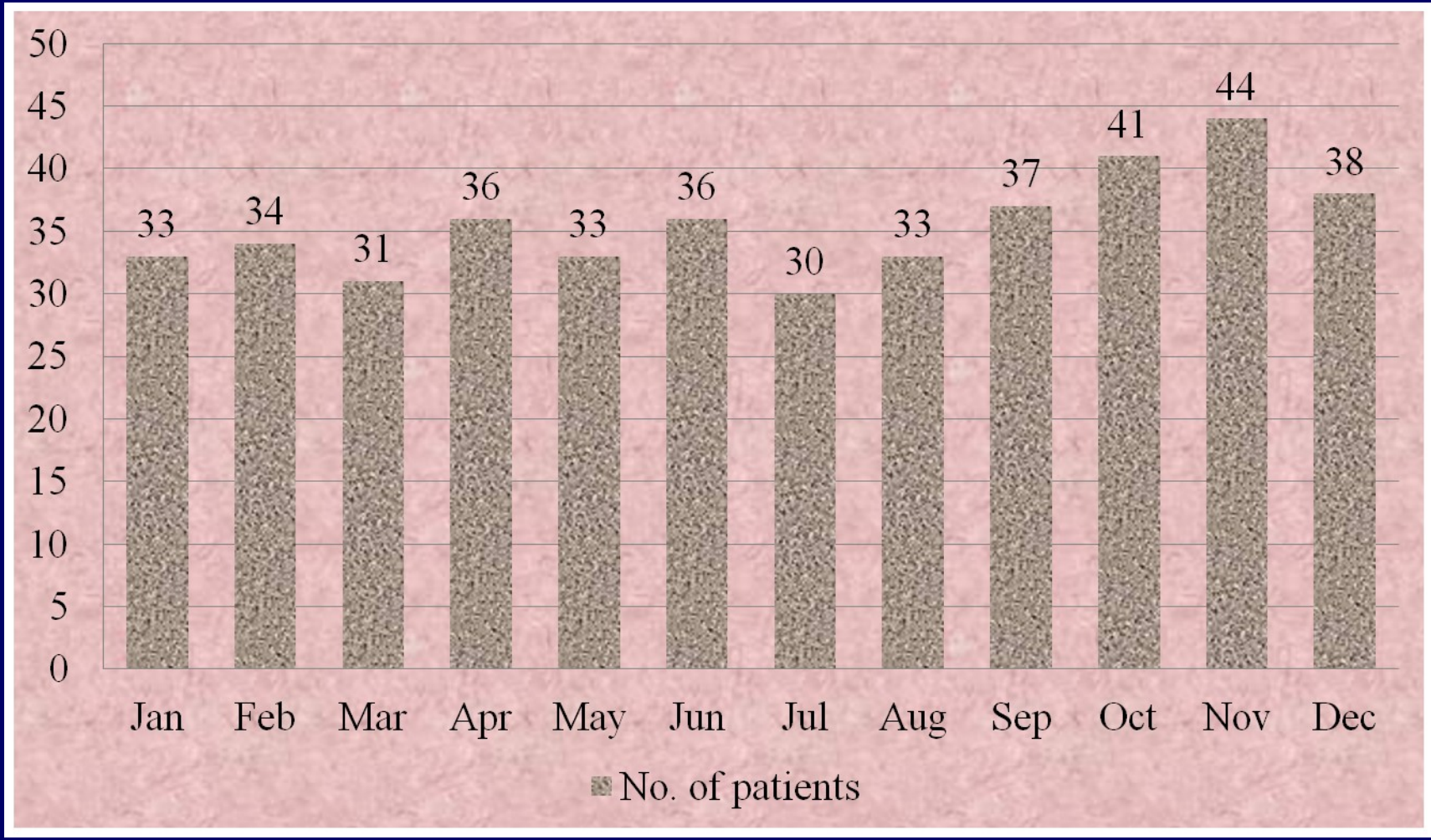
Average inborn admissions – 76/month

Out born admissions (580) – 2017



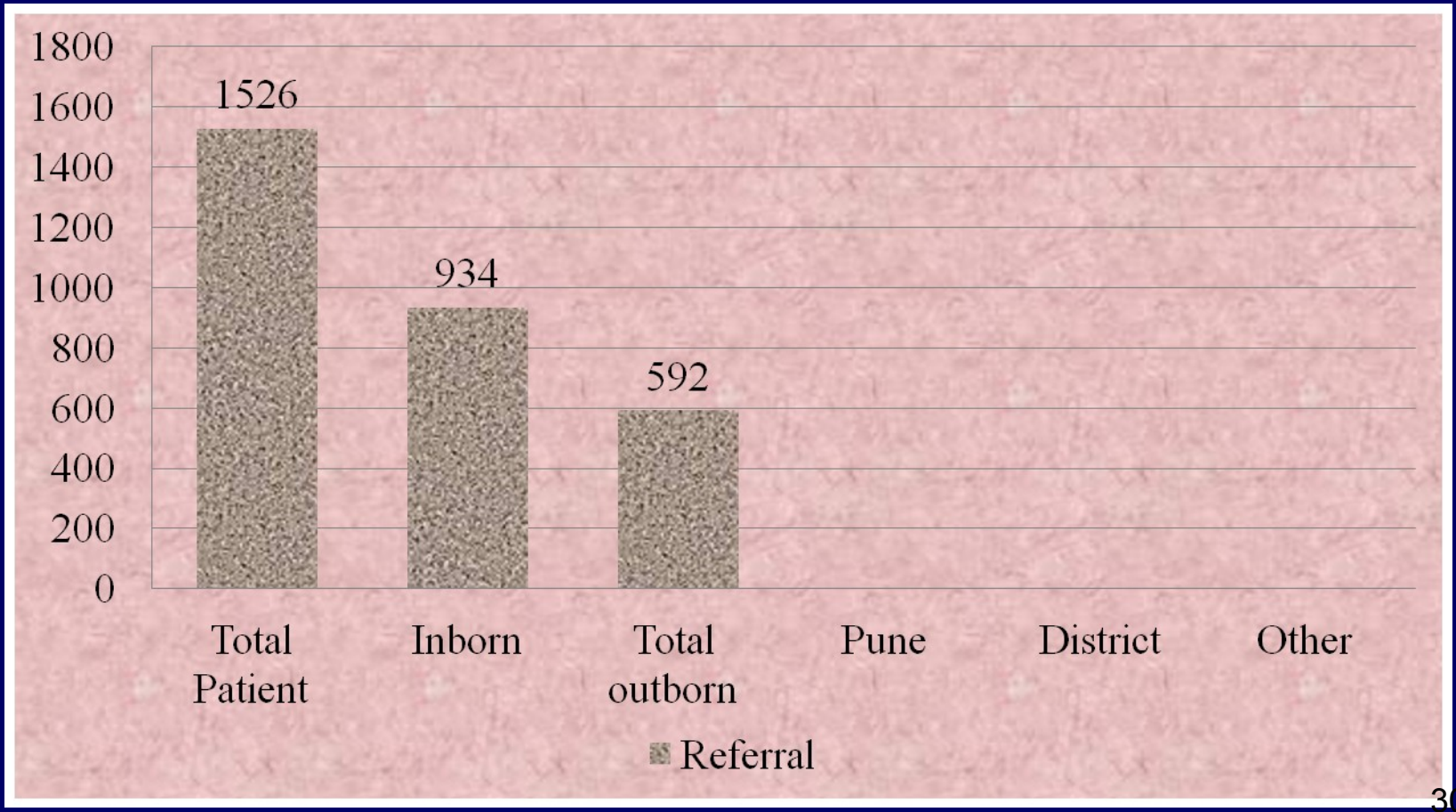
Average Outborn admissions – 48/month

Average daily remaining NICU Level III/II/I-2017

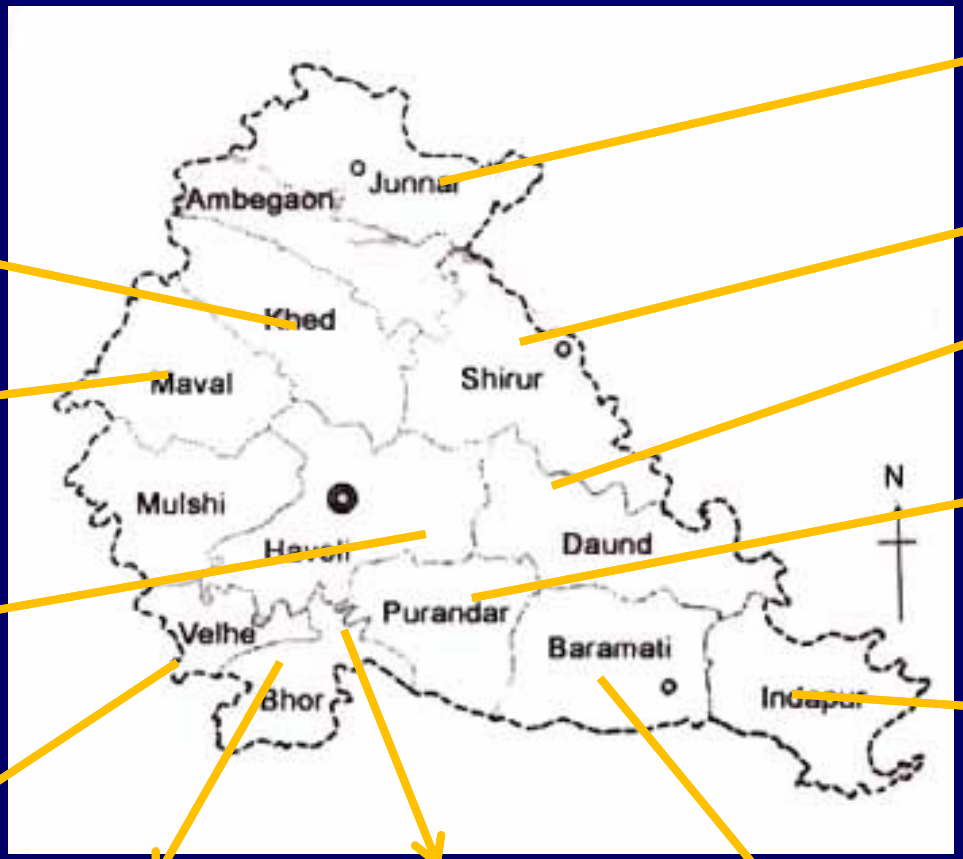


Average daily remaining in Level III, II & I – 36/day

NICU Admissions (1492)
2017 Outborn patients (580)
521 Ref docs in last 10 years



Outborn admission Pune District 2017 - 195



Junnar 5

Shirur 4

Daund 6

Purandar 6

Indapur 11

Baramati 12

Shirwad 23

Bhor 18

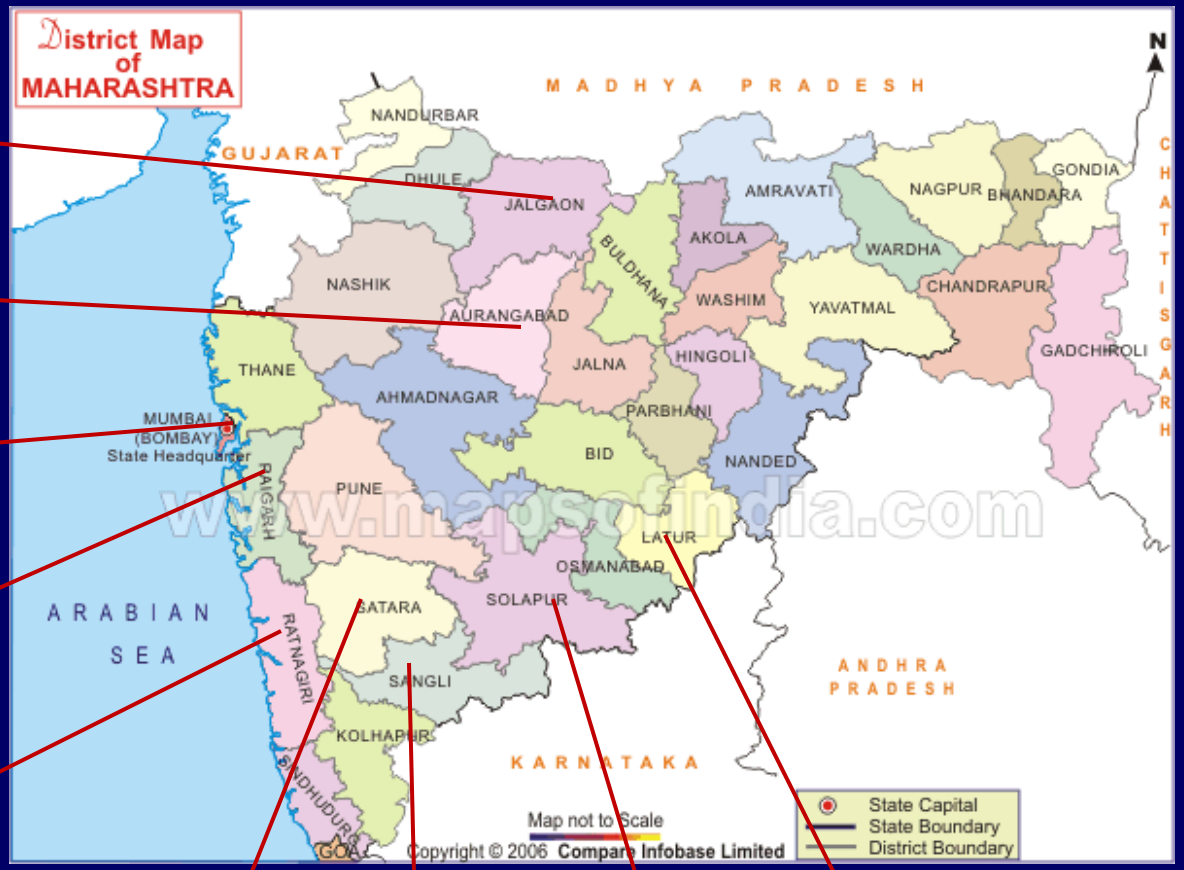
Velhe 2

Lonavala 5

Maval 1

Khed 2

Outborn 2017: other districts of Maharashtra - 80



Jalgaon 4

Aurangabad 5

Mumbai 1

Raigarh 5

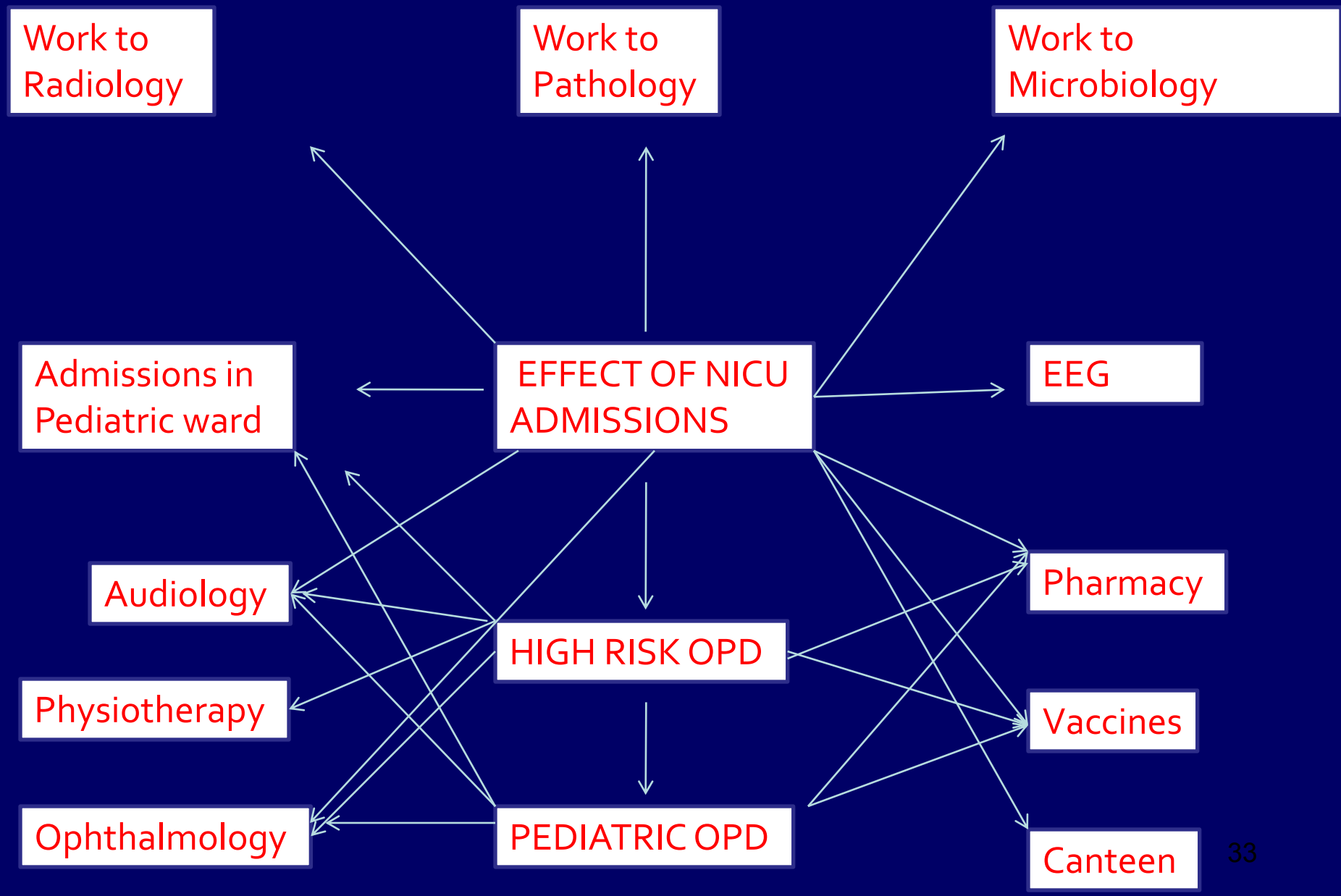
Ratnagiri 1

Satara 36

Sangali 6

Solapur 21

Latur 6


Work to Radiology
Work to Pathology
Work to Microbiology
Admissions in Pediatric ward
EFFECT OF NICU ADMISSIONS
EEG
Audiology
Pharmacy
HIGH RISK OPD
Physiotherapy
Vaccines
Ophthalmology
PEDIATRIC OPD
Canteen

Publications

22 articles

Safety Profile of Ciprofloxacin used for Neonatal Septicemia

Sudha Chaudhari, Pradeep Suryawanshi, Shrikant Ambardekar*, Manoj Chinchwadkar* and Arun Kinare*

*From the Departments of Pediatrics and * Radiology, King Edward Memorial Hospital, Pune 411 011, India.*

INDIAN PEDIATRICS 1247 VOLUME 41—DECEMBER 17, 2004

Journal of Neonatology Vol. 23, No. 4, October–December 2009

REVIEW ARTICLE

Research issues in the Follow up of high risk neonates

Kanya Mukhopadhyay*, Pradeep Suryawanshi, Anand Pandit*****

*Neonatal unit, Department of Pediatrics, PGIMER, Chandigarh–160 012

**Division of Neonatology, Dept of Pediatrics, Bharati Vidyapeeth University Medical College, Pune–411027.

***Department of Pediatrics and Neonatology, KEM Hospital, Pune–411001.

kanyapupul@yahoo.com

Volume : 2 | Issue : 3 | March 2013 **ISSN - 2250-1991**

Research Paper **Medical Sciences**

Umbilical Cord TSH Levels in Term Small for Gestational Age Neonates

*Dr. Meghana. K. Padwal **Dr. B. D. Kamble

***Dr. P. B. Suryawanshi ****Dr. R. R. Melinkeri

DOI: 10.7860/JCDR/2013/5671.3302

Original Article

Neonatology Section

Cardiac Blood Flow Measurements in Stable Full Term Small for Gestational Age Neonates

NISHANT BANAIT[1], PRADEEP SURYAWANSHI[2], NANDINI MALSHE[3], REMA NAGPAL[4], SANJAY LALWANI[5]

Journal of Clinical and Diagnostic Research. 2013 Aug, Vol-7(8): 1651-1654

Case Report

DOI: IJNMR/2013/5856:1975

Congenital Epulis: Case Report and Literature Review

Cogenital Anamolies Section

Indian Journal of Neonatal Medicine and Research. 2013 April, Vol-1(1): 4-6

REMA NAGPAL, PRADEEP SURYAWANSHI, NANDINI MALSHE, ALOK GODSE, VIJAY KALRAO

DOI: 10.7860/JCDR/2013/5658.3395

Case Report

Neonatology Section

Craniofacial Duplication: A Case Report

PRADEEP SURYAWANSHI[1], MANDAR DESHPANDE [2], NITIN VERMA[3], VIVEK MAHENDRAKAR[4], SANDHYAMAHENDRAKAR[5]

Journal of Clinical and Diagnostic Research. 2013 Sept, Vol-7(9): 2025-2026

Journal of Neonatology

Vol.27, No.3, July - September 2013

REVIEW ARTICLE

Neurosonography in the Neonate

Rema Nagpal[1], Pradeep Suryawanshi[2]

[1]NICU, Royal North Shore Hospital, Sydney, [2]Division of Neonatology, Department of Pediatrics, Bharati Vidyapeeth Deemed University Medical College, Pune 411043, India

PERINATOLOGY • Vol 15 • No. 2 • Jul–Sep 2014

Review Article

Neuroprotection With Antenatal Magnesium Sulfate

Pradeep Suryawanshi*

DOI: 10.7860/JCDR/2014/5620.3945

Case Report

Neonatology Section

Preterm Neonate with Spontaneous Pneumopericardium without any Other Associated Air Leaks

SURYAWANSHI P.[1], KLIMEK J.[2]

Journal of Clinical and Diagnostic Research. 2014 Jan, Vol-8(1): 181-182

DOI: 10.7860/JCDR/2014/8554.4460

Case Report

Neonatology Section

A Rare Case of Accidental Esophageal Perforation in an Extremely Low Birth Weight Neonate

PRADEEP SURYAWANSHI[1], AMIT DAHAT[2], REMA NAGPAL[3], NANDINI MALSHE[4], VIJAY KALRAO[5]

Journal of Clinical and Diagnostic Research. 2014 Jun, Vol-8(6): PD01-PD02

Images in Medicine

DOI: IJNMR/2014/10657.2011

Neonatology Section

Sonographic Detection of Portal Venous Gas in Necrotising Enterocolitis in Newborn

NISHANT S BANAIT, PRADEEP B SURYAWANSHI

Indian Journal of Neonatal Medicine and Research. 2014 Jul, Vol-3(1): 14

DOI: 10.7860/JCDR/2015/8596.5691

Case Report

Paeditrics Section

Pulmonary Hemorrhage (PH) in Extremely Low Birth Weight (ELBW) Infants: Successful Treatment with Surfactant

PRADEEP SURYAWANSHI[1], REMA NAGPAL[2], VAIBHAV MESHRAM[3], NANDINI MALSHE[4], VIJAY KALRAO[5]

Journal of Clinical and Diagnostic Research. 2015 Mar, Vol-9(3)

J Ped Surg Case Reports 3 (2015) 10–12

Contents lists available at ScienceDirect

Journal of Pediatric Surgery CASE REPORTS

journal homepage: www.jpscasereports.com

Gastro colic fistula in a neonate – Case report of a rare complication of necrotizing enterocolitis☆

Shilpa Kalane*, Pradeep Suryawanshi, Umesh Vaidya, Shashank Shrotriya

Division of Neonatology, Department of Pediatrics, Sahyadri Speciality Hospital, Nagar Road, Pune, Maharashtra, India

http:// ijp.mums.ac.ir

Case Report (Pages: 489-492)

Silent Tachypnoea in a Neonate: A Rare Presentation of Right Side Bochdalek Hernia with Intrathoracic Kidney

*Shilpa Kalane [1], Umesh Vaidya[1], Pradeep Suryawanshi[2], Shashank Shrotriya[3]

Int J Pediatr, Vol.3, N.2-2, Serial No.16, April 2015

DOI: 10.7860/JCDR/2015/14764.6807

Original Article

Pharmacology Section

Antibiotic Prescribing Pattern in a Tertiary Level Neonatal Intensive Care Unit

SONALI SURYAWANSHI[1], VIJAYA PANDIT[2], PRADEEP SURYAWANSHI[3], ADITI PANDITRAO[4]

Journal of Clinical and Diagnostic Research. 2015 Nov, Vol-9(11): FC21-FC24

DOI: 10.7860/JCDR/2015/14440.6971

Original Article

diatrics Section

Functional Neonatal Echocardiography: Indian Experience

ANILKUMAR MOHAN KHAMKAR[1], PRADEEP B. SURYAWANSHI[2], RAJESH MAHESHWARI[3], SUPRABHA PATNAIK[4], NANDINI MALSHE[5], VIJAY KALRAO[6], SANJAY LALWANI[7], JITENDRA SURWADE[8]

Journal of Clinical and Diagnostic Research. 2015 Dec, Vol-9(12): SC11-SC14

DRUG UTILIZATION STUDY IN A NEONATOLOGY UNIT OF A TERTIARY CARE HOSPITAL IN PUNE CITY

Sonali Suryawanshi *[1], PradeepSuryawanshi [2],Vijaya Pandit[1]

WORLD JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES **Volume 5, Issue 8, 1236-1246**

REVIEW ARTICLE

Point of Care Neonatal Ultrasound — Head, Lung, Gut and Line Localization

CHANDRA RATH AND *PRADEEP SURYAWANSHI
*From Departments of Neonatology, Royal North Shore Hospital, Pacific High way, St Leonards, NSW, Australia; and *Bharati Vidyapeeth University Medical college, Pune, Maharastra, India.*
Correspondence to: Dr Pradeep Suryawanshi, Professor and Head, Department of Neonatology, Bharati Vidyapeeth University Medical College, Pune-Satara Road, Pune, Maharastra 411 043, India. drpradeepsuryawanshi@gmail.com
Received: July 25, 2015; Accepted: June 11, 2016.

The Fast Growth of Neonatal Lung Ultrasound: Authors Reply

[#]Chandra Rath And [*]Pradeep Suryawanshi

From Departments of Neonatology; [#]Royal North Shore Hospital, Pacific High way, St Leonards, NSW, Australia; and [*]Bharati Vidyapeeth University Medical college, Pune, Maharastra, India.
Email: drpradeepsuryawanshi@gmail.com

Indian Pediatr 2017;54: 64

DOI: 10.7860/JCDR/2017/28523.10520

Paediatrics Section

Original Article

Surfactant Therapy for Early Onset Pneumonia in Late Preterm and Term Neonates Needing Mechanical Ventilation

SUJATA DESHPANDE[1], PRADEEP SURYAWANSHI[2], KUNAL AHYA[3], RAJESH MAHESHWARI[4], SAMIR GUPTA[5]

Journal of Clinical and Diagnostic Research. 2017 Aug, Vol-11(8): SC09-SC12

DOI: 10.7860/JCDR/2017/30312.10871

Original Article

Neonatology Section

Cardiac Output in Late Onset Neonatal Sepsis

SUJATA DESHPANDE[1], PRADEEP SURYAWANSHI[2], NINAD CHAUDHARY[3], RAJESH MAHESHWARI[4]

Journal of Clinical and Diagnostic Research. 2017 Nov, Vol-11(11): SC25-SC28

Research and Reports in Neonatology

Dovepress
open access to scientific and medical research

Open Access Full Text Article

REVIEW

Neonatal periventricular leukomalacia: current perspectives

This article was published in the following Dove Press journal:
Research and Reports in Neonatology

Kunal P Ahya[1]
Pradeep Suryawanshi[2]

[1]Department of Neonatology, Maahi Newborn Care Centre, Rajkot, Gujarat, [2]Department of Neonatology, BVDU Medical College, Pune, Maharashtra, India

Abstract: Significant advances in the neonatal ICU have improved the survival of extreme premature neonates; with this comes the importance of intact survival. Periventricular leukomalacia (PVL) is the commonest white matter brain injury in preterm infants. It has a typical distribution at the watershed areas adjacent to the lateral ventricles. PVL occurs because of ischemic injury to periventricular oligodendrocytes of the developing brain. It can be detected by cranial ultrasonography (CUS) as initial periventricular echodensities, followed later by cystic formation. Recent magnetic resonance imaging studies have shown that it helps in early visualization of PVL and also detection of non-cystic form of PVL, which is not picked up by CUS. It is the commonest cause of cerebral palsy, intellectual impairment or visual disturbances. Currently, no medical treatment is available for PVL; prevention and close developmental follow-up are the only options.

Keywords: periventricular leukomalacia, preterm brain injury, cranial ultrasonography

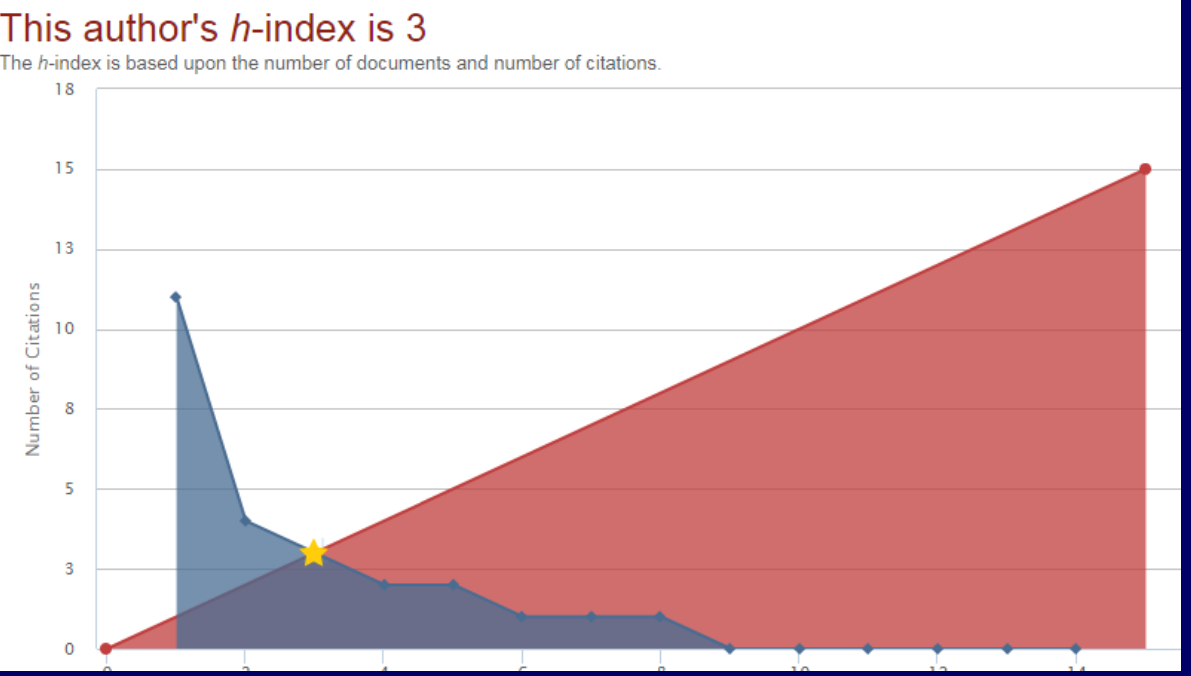
Scopus = h-index

Suryawanshi, Pradeep B. Back to author details page
Bharati Vidyapeeth University, Department of Neonatology, Pune, India
Author ID:16556712000

Documents (14) | *h*-index (3) | Citations (25) | Co-authors (37)

Analyze documents published between: 2004 to 2017 ☐ Exclude self citations ☐ Exclude citations from books Update Graph

Documents	Citations	Title
1	11	Safety profile of ciprofloxacin used ...
2	4	Craniofacial duplication: A case re...
3	3	Preterm neonate with spontaneous...
4	2	Point of care neonatal ultrasound ...
5	2	Cardiac blood flow measurements i...
6	1	Functional neonatal echocardiogra...
7	1	Pulmonary hemorrhage (PH) in ext...
8	1	A rare case of accidental esophag...
9	0	Correspondence
10	0	Antibiotic prescribing pattern in a te...
11	0	Silent tachypnoea in a neonate: A r...
12	0	Gastro colic fistula in a neonate - C...
13	0	Neuroprotection with antenatal ma...
14	0	Research issues in the follow up of...



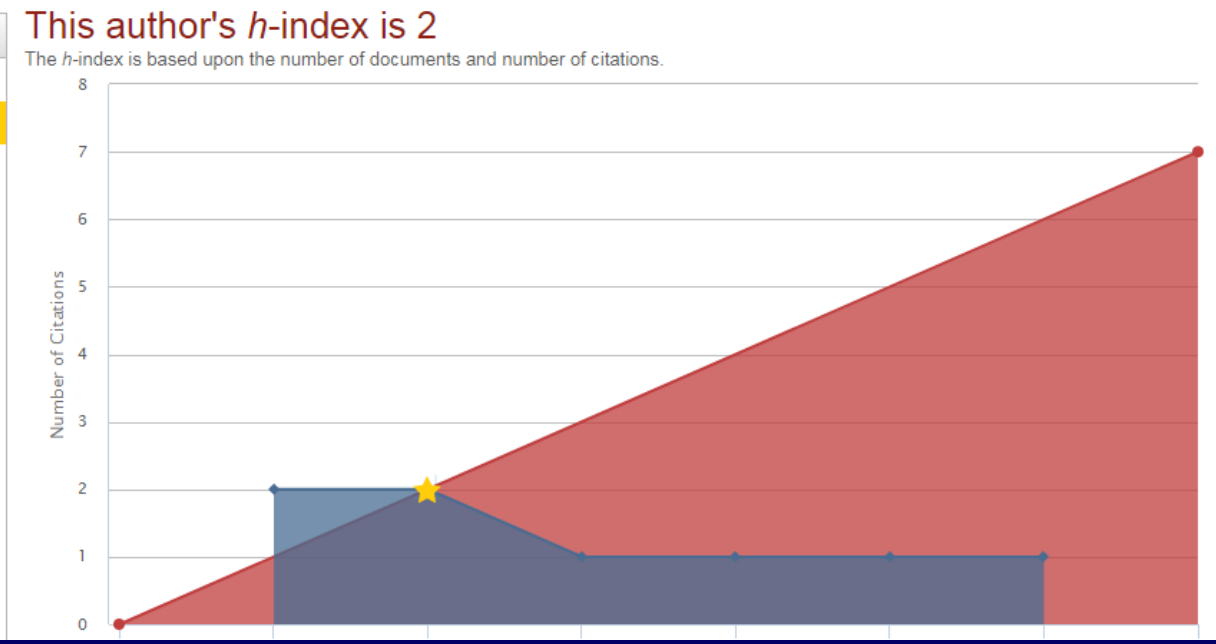
Scopus = h-index

Malshe, Nandini Back to author details page
Bharati Vidyapeeth's Medical College, Pune, India
Author ID:54412674200

Documents (6) | *h*-index (2) | Citations (8) | Co-authors (33)

Analyze documents published between: 2012 to 2017 Exclude self citations Exclude citations from books Update Graph

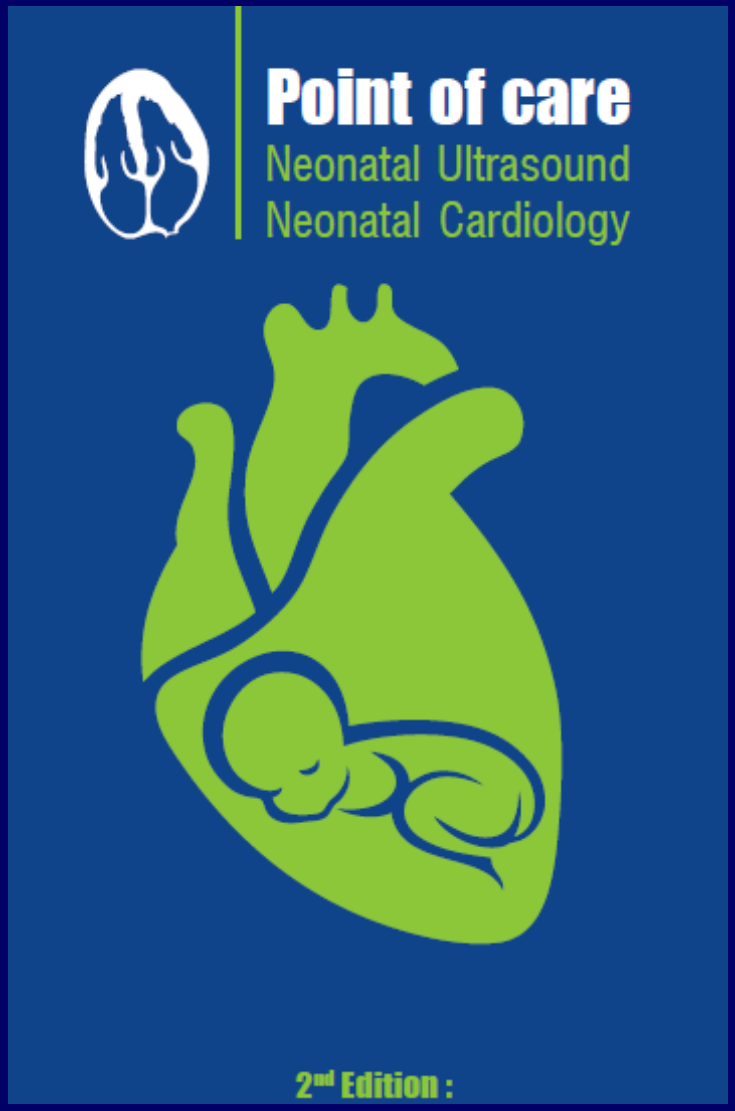
Documents	Citations	Title
1	2	Cardiac blood flow measurements i...
2	2	Assessment of safety and immuno...
3	1	Immunogenicity and safety of 3-do...
4	1	Functional neonatal echocardiogra...
5	1	Pulmonary hemorrhage (PH) in ext...
6	1	A rare case of accidental esophag...



Book Authored:

1. Point of care Neonatal Ultrasound & Neonatal Cardiology
2. Neonatal fECHO made easy
3. Newer insights in Perinatology

Book : Point of care Neonatal Ultrasound & Neonatal Cardiology



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Chief Patron & Consultant Neonatologist, Noble Hospital, Pune
Mentor, Department of Pediatrics, BLDE University, Bijapur

Dr Tushar Parikh DNB (Pediatrics) DM (Neonatology)
Consultant Neonatologist, KEM Hospital & Columbia Asia Hospital, Pune
Secretary, Maharashtra NNF (2011-2014)

Dr. Mohit Sahni DCH, DNB (Pediatrics)
Fellowship in Neonatal Perinatal Medicine& Neonatal Cardiology (Australia, Canada) Consultant Neonatologist & Neonatal Cradiologist
Director Academics and NICU, Institute of Child Health, Nirmal Hospital Private limited, Surat

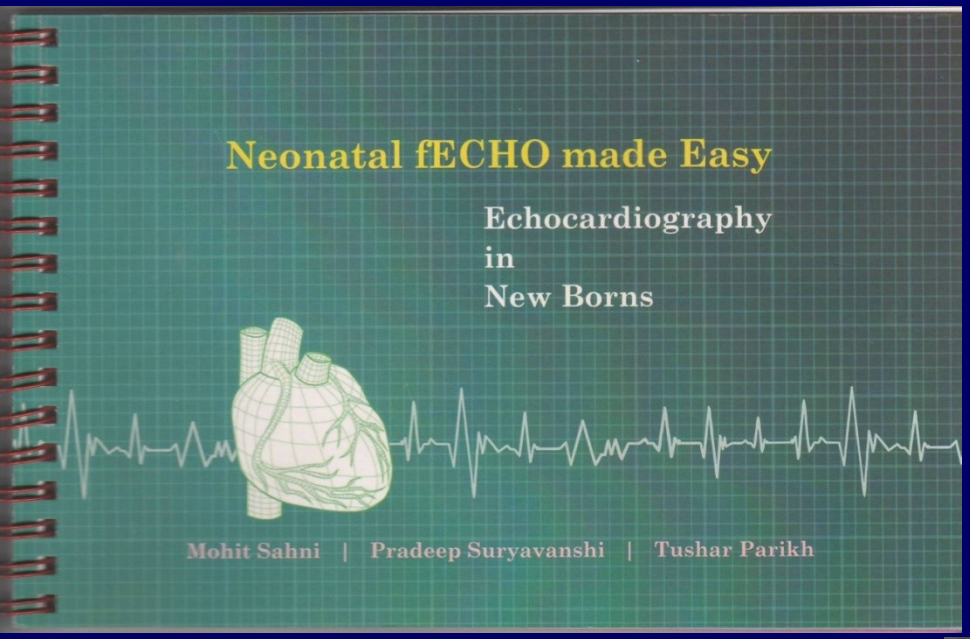
Dr. Manan Parikh DCH, IAP Neonatology
Fellowship Consultant Neonatologist
Orange Heart & Multispecialty Hospital Navsari, Gujarat, INDIA

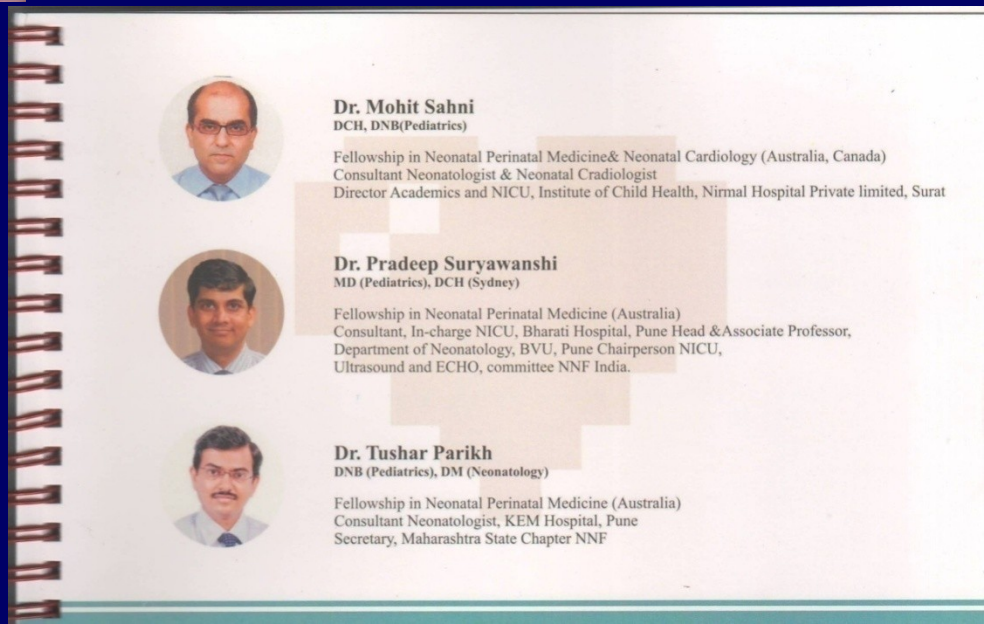
Dr. Biraj Thakker, DNB (Pediatrics)
Fellowship in neonatology (FIAP)
Consultant neonatologist
Head of division of Neonatology and Pediatrics,
Akanksha hospital and research institute, Anand (Gujrat)

Dr Rema Nagpal MD (Pediatrics), DNB (Pediatrics), CCPU (Sydney)
Fellowship in Neonatal Perinatal Medicine (Australia)
Clinical Fellow, Royal North Shore Hospital, Pune

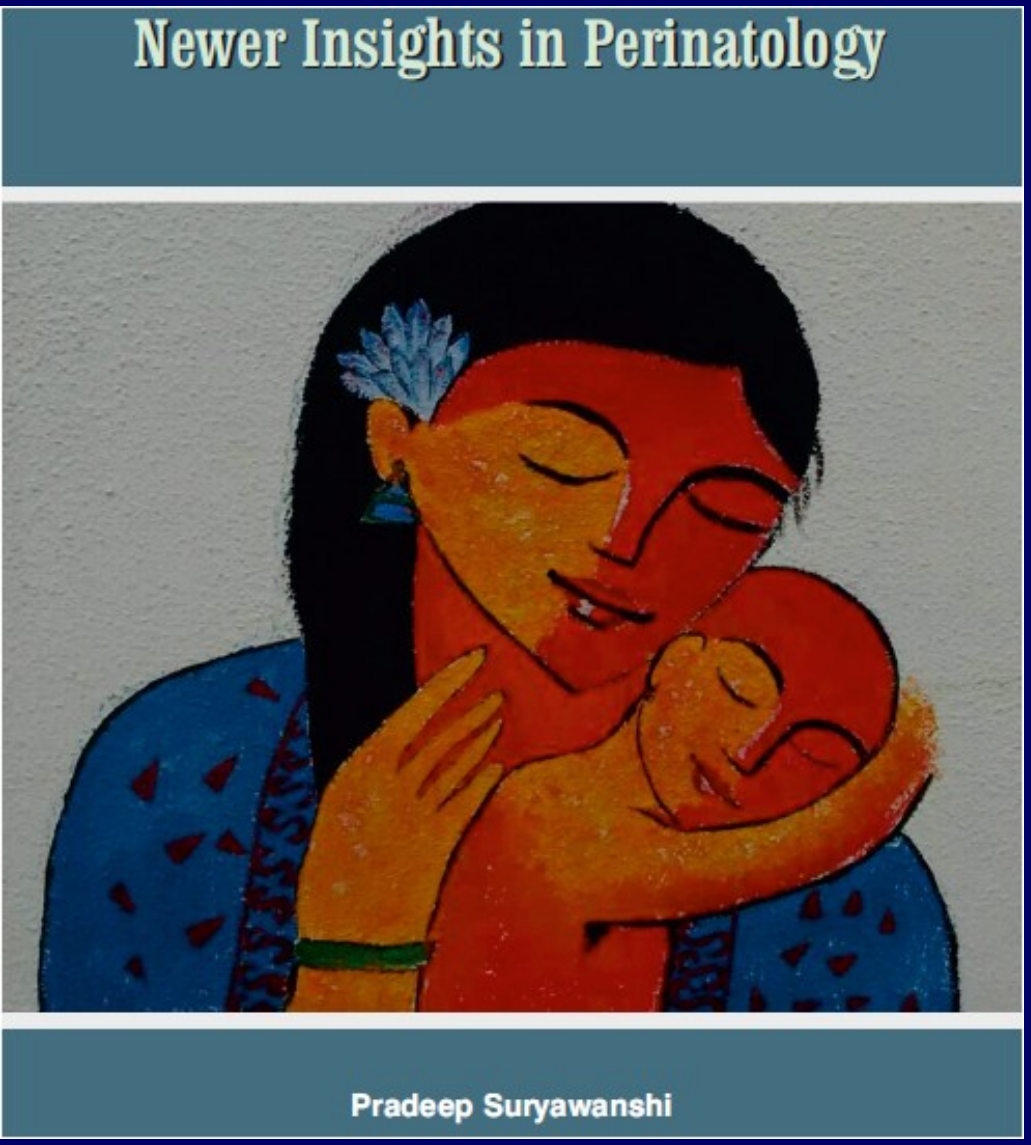
Dr Chandra Prakash Rath MD (Pediatrics), D.C.H (Sydney), CCPU (Sydney)
Fellowship in Neonatal Perinatal Medicine (Australia)
Clinical Fellow, Royal North Shore Hospital, Pune

Book : Neonatal fECHO made easy





Book : Newer insights in Perinatology



Dr. Pradeep Suryawanshi

The Newer Insights in Perinatology is a practical book for neonatal health care providers – Undergraduates, Post graduates, Clinical Fellows, Pediatricians, obstetricians & neonatologist covering common antenatal, intrapartum & neonatal problems. Each section provides up-to-date information with key messages & ready material for the practitioners.

Sallent Features
Covers 40 Antenatal, Intrapartum & Neonatal topics
Divided into six sections - Antenatal medicine, Intrapartum Medicine,
Newborn screening, Normal newborn, Common neonatal conditions & Neonatal sepsis
Up-to-date material with guidelines
Easy to read & follow
Contributions by more than 30 experts

Dr. Pradeep Suryawanshi is one of India's renowned senior neonatologists, currently based in Pune. He earned his MBBS from SBHGMC Dhule and MD Pediatrics from B.J. Medical College, Pune in the year 2000. He subsequently did his DCH and Fellowship in Neonatal Perinatal Medicine from University of Sydney, Australia from 2001 to 2007.

Throughout his academics, he was a meritorious student and a university topper with many feathers in his cap; he has been awarded many gold medals and distinctions. During his tenure in Australia, he received extensive training in neonatal functional Echocardiography & point of care neonatal ultrasound. Taking this forward to future generations, he is a pioneer in introducing functional Neonatal Echocardiography and Point of Care Neonatal Sonography in India.

Dr. Suryawanshi has received laurels from across the country for maintaining the highest standards of care in neonatal intensive care management. His diligence in his work and competence in procedural skills are unmatched. His unprecedented leadership qualities and enthusiastic teachings to his students continue to inspire all around him. He has made an immense contribution in making ultrasound as a bedside simple tool for appropriate early intervention in newborn care.

Presently, he is a Professor and Head of Neonatology at Bharati Vidyapeeth University Medical College, Pune and a Head of Neonatology at Sahyadri Hospital, Pune and Noble Hospital, Pune. He is mentor for Department of Pediatrics at BLDE University Bijapur. He is also mentor at various hospitals all across the country (Satara, Kolhapur, Pandharpur, Karad, Jalgaon, Solapur and Indore). He is a dignified national faculty and Secretary of the Maharashtra chapter of the National Neonatology Forum (NNF). He has been awarded many regional and national awards for his excellent work and contributions to the field of newborn resuscitation. He is the main author of Point of Care Neonatal Ultrasound and Neonatal Cardiology, which is the first book in India in this field. He is also a prime author of many chapters of national and international books and has authored many great articles, presentations and free papers in various journals all across the world.

Bharati medical college is running successful DM Neonatology & fellowship courses (Bharati fellowship, Indian academic of Pediatrics fellowship & National Neonatology Forum Fellowship) in the neonatal intensive care unit under his guidance and supervision. Above all, he is a true mentor and an embodiment of courage, positivity and exuberant energy for all his students/fellows who are successfully running level III neonatal intensive care units all across the country.

National Guidelines:
National Neonatology Forum: India

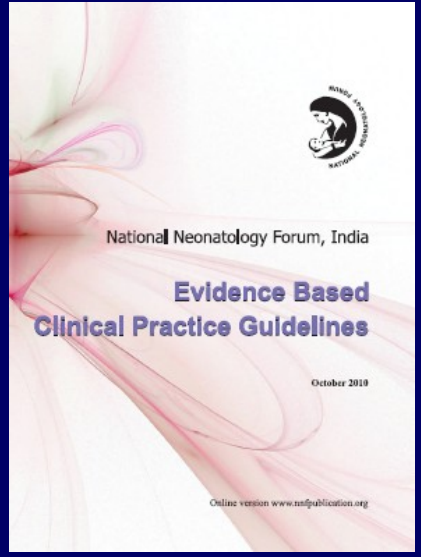
1. Follow of high risk newborns
2. Cranial Ultrasonograpghy in neonates

National Guidelines:
Indian Academy of Pediatrics

1. Universal newborn hearing screening

National Guidelines: National Neonatology Forum: India

1. Follow of high risk newborns
2. Cranial Ultrasonograpghy in neonates



Follow up of High Risk Newborns

Summary of Recommendations

- All health facilities caring for sick neonates must have a follow up program. It requires establishment of a multidisciplinary team.
- The level of follow up can be based on anticipated severity of risk to neurodevelopment. The frequency of follow up and the type of tests depend on "intensity or level of follow up" assigned. The schedule for follow up must be planned before discharge from birth admission.
- Prior to discharge, a detailed medical and neurological assessment, neurosonogram, ROP screen and hearing screen should be initiated. A psychosocial assessment of the family should also be done.
- The follow up protocol should include assessment of growth, nutrition, development, vision, hearing and neurological status.
- Formal developmental assessment must be performed at least once in the first year and repeated yearly thereafter till six years of life. In Indian context, DASII is the best formal test for developmental assessment (till 2 year 6 months).
- Ideally, the follow up should continue till late adolescence, at least till school as many cognitive problems, learning problems and behavioral problems that are more common in at-risk neonates are apparent only on longer follow up.
- Early intervention programme (early stimulation) must be started in the NICU once the neonate is medically stable.
- Timely specific intervention must be ensured after detection of deviation of neurodevelopment from normal.

Writing Group: *Chairperson*: Anand Pandit; *Members*: Kanya Mukhopadhyay, Pradeep Suryawanshi; *Reviewers* : MKC Nair, S Seetaraman, Naveen jain

Cranial Ultrasonography in the Newborn

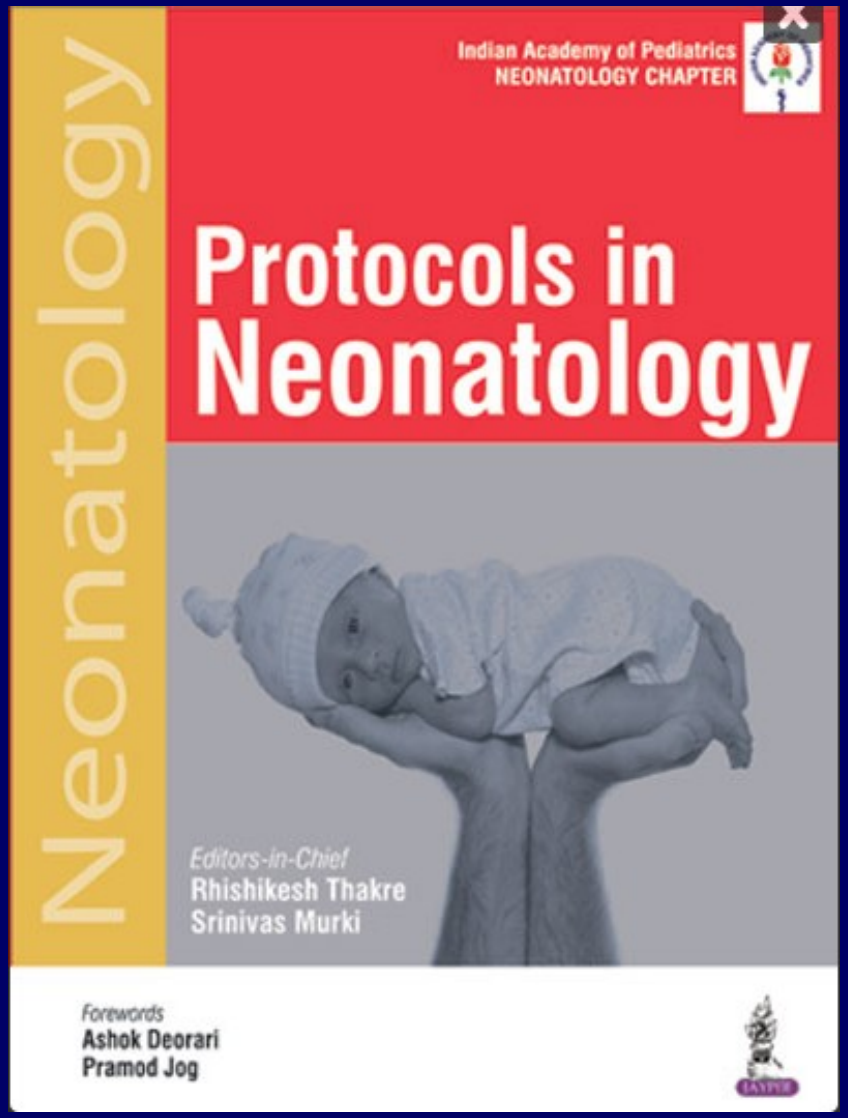
Summary of Recommendations

- Periventricular hemorrhage, cystic periventricular leukomalacia and ventricular dilatation can be accurately detected and followed by CUS.
- Routine screening cranial US should be performed on all infants with birth weight < 1250grams or gestation < 30 weeks. However, this is mainly based on evidence from western countries. Data from multiple centers across India needs to be collated to validate these cut-offs.
- Screening cranial US should be performed at 7 to 14 days of age and repeated at 36 to 40 weeks postmenstrual age.
- Role of gray-scale CUS in term asphyxiated babies is not proven. However measurement of CBF by Doppler helps in predicting the neurodevelopmental outcome in hypoxic ischemic encephalopathy.
- Cranial ultrasonography (CUS) is the best point of care neuroimaging method available for premature and sick babies.
- The ultrasound machine should be portable, should have presets for neonatal CUS and there should be facility to print and store the images. The transducer should be of 5-8 Mhz multi-frequency sector probe and its head be small enough to fit the windows.
- The sonographer should have knowledge about the brain anatomy, maturation, common neurological morbidities and the art of handling such fragile patients.
- A systematic structured approach should be followed to detect cerebral pathology and the same should be documented methodically.

Writing Group : *Chairperson*: KK Diwakar ; *Members*: K Ravi Shankar, Arti Maria
Reviewers: Arun Gupta, Pradeep Suryawanshi

Book Chapters

7 chapters



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CHAPTER

Intraventricular Hemorrhage and Periventricular Leukomalacia Screening and Classification

Pradeep Suryawanshi

INTRAVENTRICULAR HEMORRHAGE

DEFINITION

- Germinal matrix Hemorrhage (GMH)/ Intraventricular Hemorrhage (IVH) is the most common type of intracranial hemorrhage and is classically seen in preterm infants.
- Characteristically originates from the fragile involuting vessels of the subependymal germinal matrix, located in the caudothalamic groove. The vascularized subependymal germinal matrix, lacks the supporting basement membrane and there is an increased amount of fibrinolytic activity in the germinal matrix region that predispose to the development of IVH.

incidence is 15–20% in infants born at <32 weeks' gestation. It is uncommon in term neonates (Table 1).

TABLE 1: Risk factors for IVH

Intravascular factors	Ischemia/ reperfusion (e.g. volume infusion after hypotension
	Increase in cerebral blood flow (e.g. with hypertension, anemia, hypercarbia)
	Increase in cerebral venous pressure (e.g. with high intrathoracic pressure, usually from ventilator, pneumothorax)
	Platelet dysfunction with coagulation disturbances
Vascular factors	Tenuous, involuting capillaries with large luminal diameter
Extravascular	Deficient vascular support

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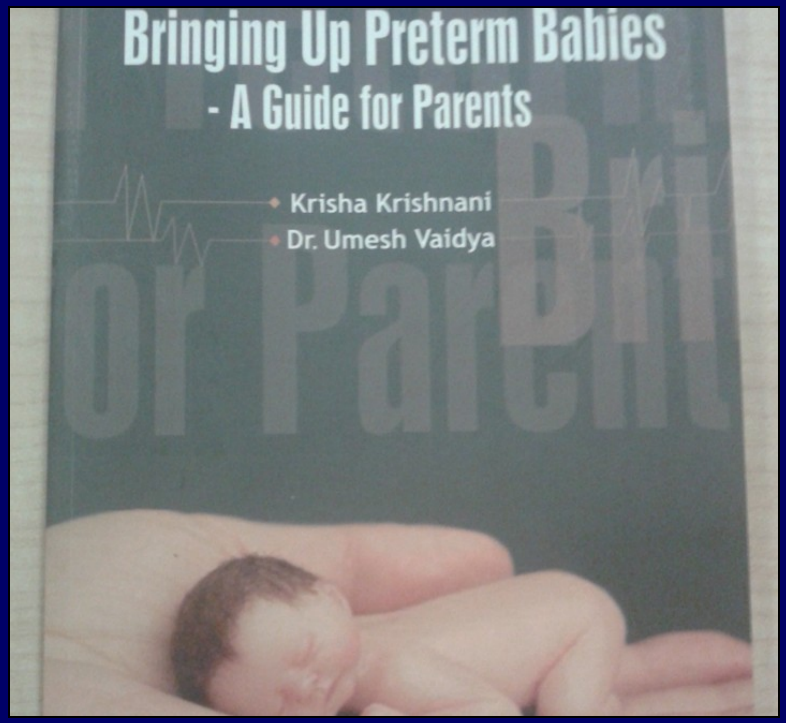

06. Growth monitoring in preterm babies

- Dr. Pradeep Suryawanshi

"All change is not growth; as all movement is not forward"
Ellen Glasgow

Topics for discussion in this chapter

- *Growth and its concerns;*
- *Growth charts used for preterm babies;*
- *Catch-up growth.*

We have seen in earlier chapters that most of the preterm infants are low birth weight (below 2500 gm) at birth. This is because of early delivery before baby's full intra-uterine growth is achieved. One of the main focuses of medical care is to monitor and achieve adequate growth in these babies while in NICU and later, at home. This chapter discusses the various aspects of growth monitoring and the ways of assessing optimal growth.

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54. CARE OF THE NICU EQUIPMENTS

Dr. Pradeep Suryawanshi

Each equipment in the NICU needs special care and each has a different and specific method of cleaning and maintenance

Sr. No.	Name of equipment	Precautions and checking	Cleaning and disinfection	Once a week	Once monthly	Every quarter
1.	Radiant warmer	Place the warmer away from air currents. • Clean the mattress and platform, and cover the mattress with a clean linen sheet. • When it is known beforehand that a baby is to arrive in the newborn unit, turn on the warmer at least 20 minutes prior to pre-warm the linen and mattress so that the baby does not lie on a cold surface initially. • Read the temperature on display. Adjust heater output to High : If baby's temperature is below 36.0°C	Daily morning cleaning with 25% bacillocid	For same patient change the trolley after 7 days	Checking by biomedical engineer	Company person Keep AMC papers in one folder KeepAMC dates in a order

82. PERSISTENT PULMONARY HYPERTENSION

Dr. Pradeep Suryawanshi

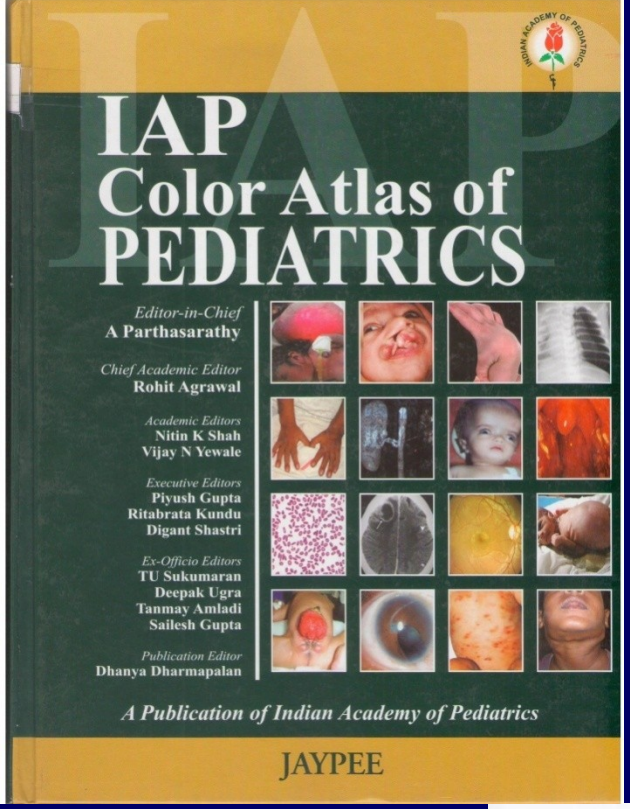
Persistent pulmonary hypertension (PPHN) refers to the persistence of the high pulmonary arterial pressure after birth, often more than systemic pressures, that is characteristic of the fetal circulation, leading to severe hypoxia and respiratory failure.

Pathophysiology

In fetal life, there is hardly any blood flow to the lungs. This is due to the high pulmonary vascular resistance and shunts (across foramen ovale and ductus arteriosus) which cause blood to bypass the pulmonary vascular bed. At birth, the pulmonary vascular resistance normally falls dramatically due to lung inflation and oxygenation. The pulmonary blood flow increases and by 24 hours after birth, the pulmonary arterial pressures falls to about 50% of systemic arterial pressure. When this normal transition fails, the pulmonary vascular resistance and pulmonary artery pressure remain elevated, the pulmonary blood flow is low and right to left shunting occurs at the foramen ovale and ductus arteriosus resulting in hypoxemia. Rarely structural abnormalities of the pulmonary artery may contribute to PPHN.

Etiology

1. **Primary PPHN.** These babies are profoundly hypoxic but have no clinical or autopsy evidence of lung disease.
2. **Secondary PPHN**
   a) **Severe lung disease:** Acidosis, hypoxia, gas trapping and lung over distension due to underlying lung disease (Ex MAS, RDS, Pneumonia) are potent pulmonary vasoconstrictors.



Picture	Note	Management

USG Skull-IVH

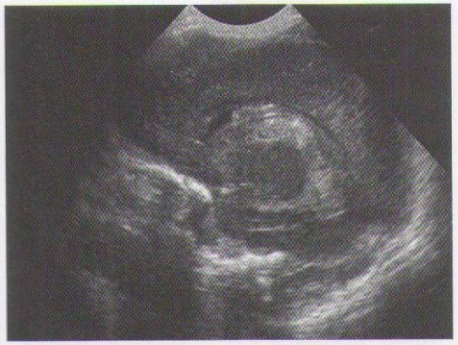
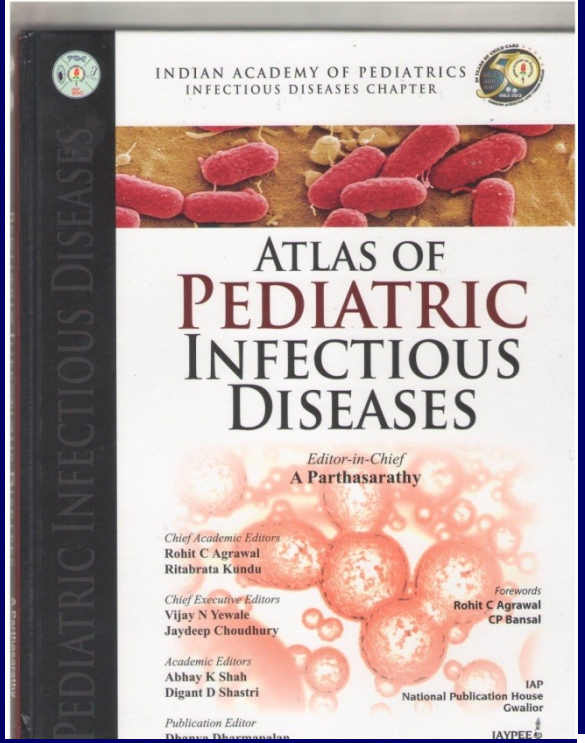


Figure 1.5.9: USG Skull-IVH
Photo Courtesy: Pradeep Suryawanshi, Pune

The US brain parasagittal view shows >50% of the ventricular area, distending the lateral ventricle suggestive of grade III IVH. Presentation occurs within first 5 postnatal days and may be clinically silent, salutatory or catastrophic. Risk factors in addition to prematurity include vaginal delivery, intrapartum asphyxia, respiratory distress syndrome, hypoxemia, acidosis, pneumothorax and seizures.

- Because one half of IVH are clinically silent, routine ultrasound screening should be performed on all infants less than 30 weeks gestation or with risk factors, at 7 to 14 days and 36 to 40 weeks post-menstrual age to detect IVH, periventricular leukomalacia (PVL) and ventriculomegaly.
- A grading of severity is assigned based upon the location and extent of IVH.



1.2 SYSTEMIC INFECTIONS

Brain Abscess

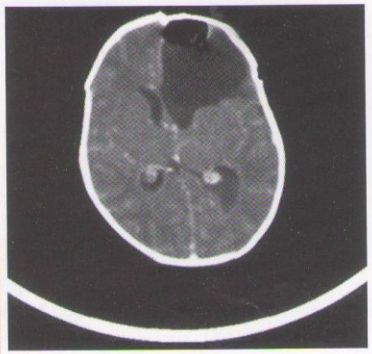


Figure 1.2.1: Brain abscess
Photo Courtesy: Pradeep Suryawanshi, Pune

Note a single, large space occupying lesion in frontal lobe with surrounding edema with minimal shift of midline with no dilatation of ventricles (Fig. 1.2.1). These arise as a complication of septicemia, meningitis or underlying systemic cause for thrombosis or embolism. Presence of unexplained high fever, lethargy, seizures, focal deficit, worsening sensorium should raise suspicion of brain abscess. Any new born baby with acute pyogenic meningitis who is not responding to routine treatment should be screened for complication like subdural empyema, brain abscess, etc.

- Sepsis screen, cerebrospinal fluid (CSF) study including culture, blood culture, CT brain or MRI confirm brain abscess.
- USG/CT guided aspiration, antibiotics (4–8 weeks) and if non-responsive, surgery may be needed.
- Abscesses larger than 2.5 cm are excised or aspirated, while those smaller than 2.5 cm or which are at the cerebritis stage are aspirated for diagnostic purposes only.

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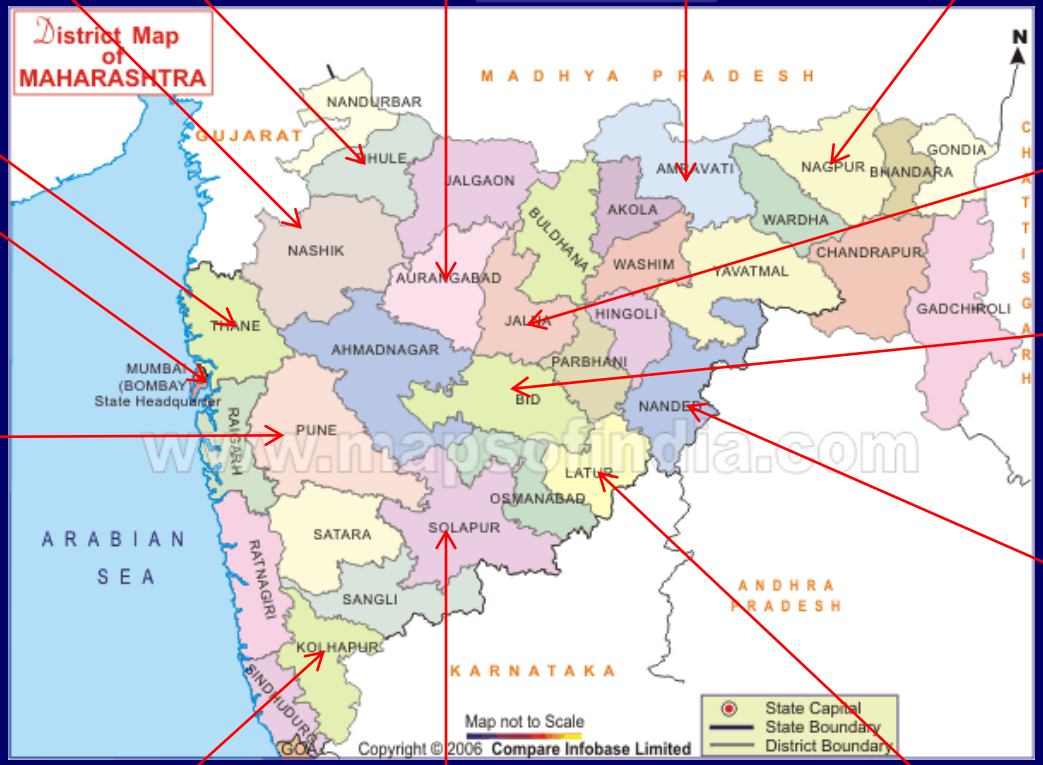

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XXVII Annual Convention National Neonatology Forum-Neocon 2007, NNF India : 13th December 2007

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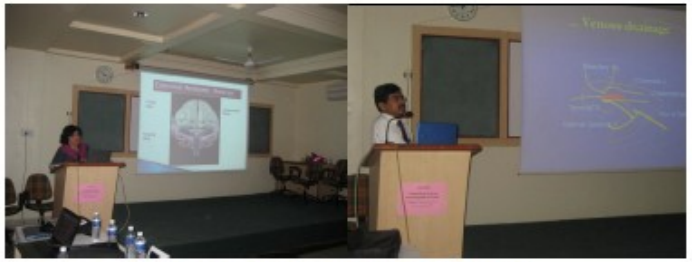
Release of the Workshop Module

Lectures by Dr. Ajay Gambhir & Dr. Arun Kinare

NATIONAL BASIC NEONATAL NEUROSONOGRAPHY WORKSHOP



Lectures by Dr. Priscilla Joshi & Dr. Tushar Parikh

Lecture by Dr. Mohit Sahani & Dr. Pradeep Suryawanshi

1st National Basic Neonatal Neurosonography Workshop

NNF India – 23rd Sept 2012

NATIONAL BASIC NEONATAL NEUROSONOGRAPHY WORKSHOP

Hands on training and interactive sessions by all faculty to delegates

NATIONAL BASIC NEONATAL NEUROSONOGRAPHY WORKSHOP

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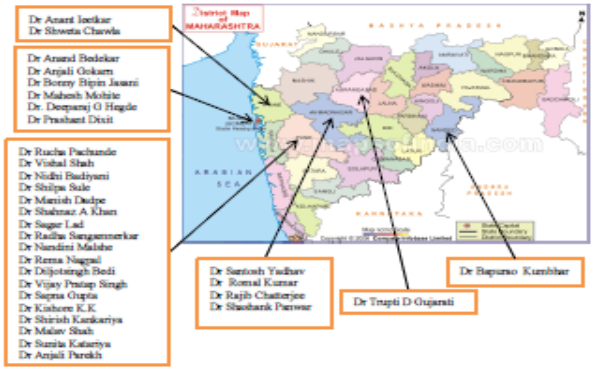

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Lecture & Hands on training by Dr. Mohit Sahani

Lecture by Dr. Pradeep Suryawanshi

Vote of thanks

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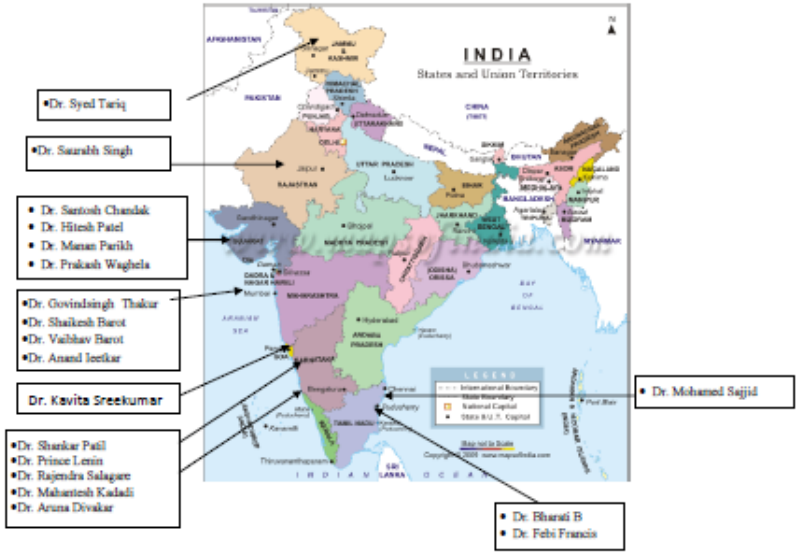

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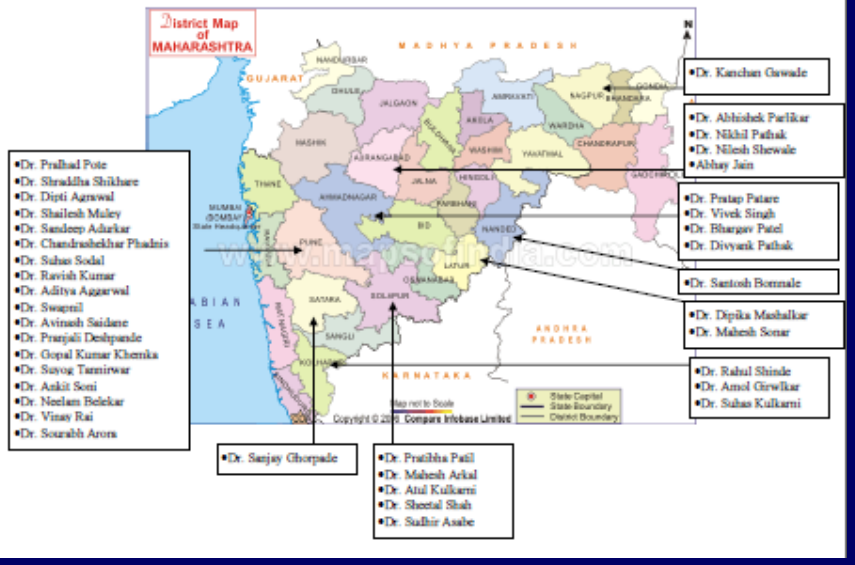

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सकाळ वृत्तसेवा

पुणे, ता. ४ : जन्मतःच अवघे साडेपाचशे ग्रॅम वजन असलेल्या अर्भकाला पुण्यातील वैद्यकीय तज्ज्ञांनी जीवदान दिले. भारती हॉस्पिटल येथील डॉक्टरांनी हे आव्हान यशस्वी पेलले. गेल्या चार महिन्यांमध्ये या बाळाचे वजन समाधानकारक वाढले असून, ती आता सुदृढ होत आहे.

एस. डेविड यांना सहावा महिना सुरू असतानाच त्यांनी पाच जानेवारीला एका मुलीला जन्म दिला; पण, तिचे वजन कमी असल्याने अर्भकाला प्रसूतीनंतर लहान मुलांच्या अतिदक्षता विभागात दाखल करावे लागले. त्यानंतर रुग्णालयातील बालरोगतज्ज्ञ आणि परिचारिका प्रत्येक क्षणी तिची काळजी घेत होते, अशी माहिती भारती हॉस्पिटलचे वैद्यकीय संचालक डॉ. संजय ललवाणी यांनी गुरुवारी दिली. बालरोगतज्ज्ञ डॉ. प्रदीप सूर्यवंशी व डॉ. नंदिनी माल्शे या वेळी उपस्थित होते.

डॉ. ललवाणी म्हणाले, "मुलीची जन्मतःची परिस्थिती पाहून आई-वडिलांनी धीर सोडला होता; परंतु भारती रुग्णालयातील डॉक्टरांनी या मुलीवर नवजात मुलांसाठी तयार करण्यात आलेल्या अतिदक्षता विभागात उपचार सुरू केले. मुलीच्या फुफ्फुसाची वाढ पूर्णपणे झाली नव्हती. त्याचबरोबर कावीळ, रक्तातील साखर कमी होऊन जंतूसंसर्ग झाला होता. या सर्व आजारांवर योग्य उपचार करून चार महिन्यांत मुलीचे वजन सुमारे दोन किलोवर नेण्यास डॉक्टरांना यश आले."

डॉ. सूर्यवंशी म्हणाले, "कमी वजनाच्या बाळांना मेंदूत रक्तस्राव होणे, दृष्टीपटलावर रक्तवाहिन्यांची वाढ होणे, ऐकू कमी येणे हे त्रास उद्‌भवतात. योग्य वैद्यकीय उपचार मिळाल्याने या मुलीस यापैकी कोणताही त्रास झाला नाही. मुलीच्या सर्वांगीण वाढीसाठी पुढील दोन वर्षे वेळोवेळी तपासणी करण्याचा सल्ला देण्यात आला आहे."

FACING MULTIPLE PROBLEMS, BABY GIRL WHO WEIGHED 550 GRAMS AT THE TIME OF BEING ADMITTED TO THE HOSPITAL, NOW WEIGHS 1.8 KG

Born in 26th week, reborn in 117 days

DNA Correspondent • PUNE

Popularly known as a 'fighter' in the neonatal intensive care unit's (NICU) corridors of Katraj's Bharati Hospital, baby Hannah deserves her flattering nickname.

Hannah, now four months old, was born in just six and half months or the 26th week of her mother's pregnancy.

Born on January 5 at Pune Adventist Hospital, Hannah was so small that she could fit into her father David Samuel's palm. Weighing just 550 grams at birth with underdeveloped vital organs such as brain, lungs and eyes, Hannah was shifted to Bharati Hospital's NICU even before her mother Swaroopaand could regain consciousness.

For 117 days, the NICU unit turned second home for the Wanowrie couple. Finally, Hannah was discharged from hospital on Monday weighing 1.8 kg with remarkable development of vital organs.

"When she was admitted she had immature lungs and needed assisted ventilation. On ventilator till 66 days, Hannah dealt problems like pneumonia, sepsis, jaundice, low blood pressure, constant fear of intracranial bleed and other complications," said Dr Sanjay Lalwani, head of paediatrics and medical superintendent, Bharati Hospital.

The team of doctors managing Hannah included paediatrician Dr Pradeep Suryawanshi, Dr Nandini Malshe and Dr Rema Nagpal.

Now back home, Hannah has adapted well and her overjoyous parents are happy to finally experience the sleepless nights they had anticipated.

"For four months that Hannah was not home, we knew she was safe in hospital, but we wanted to experience the sleepless nights. Since she has come home, she has completely dominated our world. Her crying, babbling and constant demands keep us on our toes," said Swaroopaand, a former lecturer.

> **"Since she is back, her crying, babbling and constant demands keep us on our toes."**
>
> —Swaroopaand, Hannah's mother

Recalling her horror when she was told that her baby might not survive, the mother feels it's a miracle and the dedication of doctors and nursing team that her baby was able to pull it through.

"This is my first pregnancy. At 26 weeks, I had pregnancy induced hypertension. The doctor advised abortion as she was too tiny and was unlikely to survive, but my husband and I were determined to take the chance," recalled Swaroopaand.

"I was told that a caesarean delivery was possible and she was born. Since then there have been days when Hannah wasn't good but neither we nor doctors gave up hope. And Hannah proved to be a fighter," said the smiling mother.

Swaroopaand (left) and David Samuel with their daughter at Patrakar Bhavan on Thursday —Jignesh Mistry DNA


THE INDIAN ACADEMY OF PEDIATRICS
Indian Academy of Pediatrics
On the occasion of its 51st National Conference at Indore
HONORS
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TO
GOLDEN CLUB
In Appreciation of Championing the Services of NRP-FGM Program
In Capacity of State Academic Coordinator (SAC) Maharashtra, 2013
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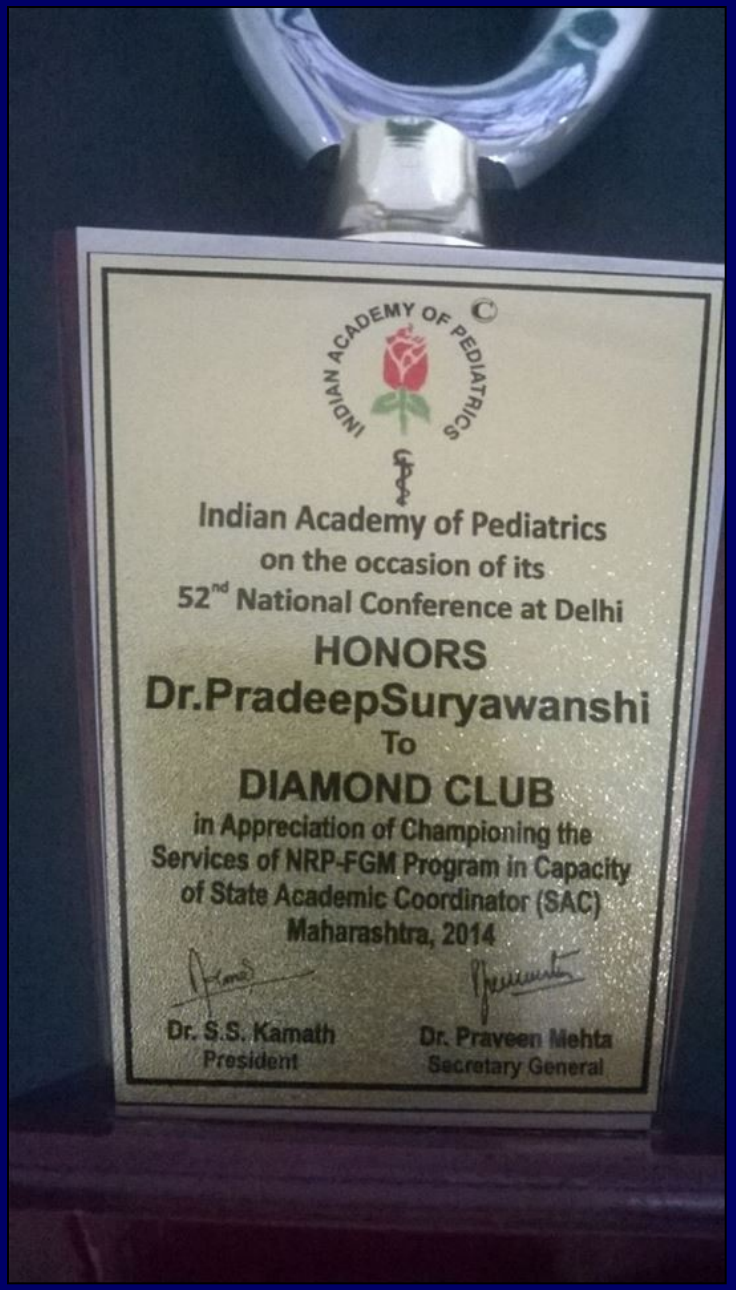
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at New Delhi on 11th December, 2017

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Dr. N.S.N. Babu, Ph.D.
Secretary General


Reaching the Unreached
NATIONAL NEONATOLOGY FORUM
RAJNEOCON 2017
Udaipur [Rajasthan]
Honors
DR PRADEEP SURYAWANSHI
In Appreciation of
Professional Excellence
and
Exemplary contribution
in the field of Neonatology
THEME- "REACH TO UNREACHED"
November 4, 2017

Our Team : First in India

First unit to commence Point of care Neonatal ultrasound in NICU in India

Discharge Kit - Premature baby kit

First Book : Point of care Neonatal Ultrasound & Neonatal Cardiology

First article :

1. **Neonatal Functional Echocardiography : Indian Experience**
2. **Surfactant in Congenital pneumonia**
3. **Point of care Neonatal Ultrasound : Head, Lung, Gut & Lines localization**

Pioneer in Point of care Neonatal Ultrasound in India - Conducted 34 workshops all over India

Conducted 1st and 2nd National Conference on Neohemodynamics

Conducted 1st National workshop on

1. Neonatal Functional Echocardiography

2. Neonatal Point of care Neurosonography

3. Point of care Neonatal Ultrasound

Our Team : First in India

First unit in India – To commence Fellowship in Neonatology

First unit in Pune to commence – DM Neonatology (17 Centres in India / 3 In Maharashtra / 1 in Pune)

One of the three units in Pune with III A Accreditation of NNF India

NATIONAL NEONATOLOGY FORUM (INDIA)

803, 8th Floor,Northex Tower, A-9, Netaji Subhash Place, Ring Road,
Pitampura, New Delhi-110034, India

The Neonatology Units of The

Bharti Vidyapeeth University Medical College Pune

is hereby declared as an Accredited Level III-A

Special Care Neonatal Unit

In Consideration of the satisfactory fulfilment of the

criteria prescribed by the Forum for the purpose.

Given under the seal of the NNF on this day 08 September 2016

and valid till 07 September 2018

DR. AJAY GAMBHIR	DR. SUNIL MEHENDIRATTA	DR. B.D. BHATIA	DR. SHIKHAR JAIN
President NNF	Secretary NNF	President Elect	Past President

Nursing Achievement :

MSC NNF Nursing Quiz – 2nd number since last three years in Maharashtra

16 Nursing staff – Placement out of India in Developed countries

31 Nursing staff – Placement out of India in middle east

Collaborations

State – Government of Maharashtra - FBNC

National – Kochi

International – John Hopkins University

Collaborations

International – Johns Hopkins University

Healthcare-Associated Sepsis in the Neonatal Intensive Care Unit in Pune, India

Study Coordination and Source of Funding: United States Centers for Disease Control and Prevention (CDC) SHEPheRD Domain 7 program

Visits of International faculty to NICU

Visit of Prof Steven B. Hoath- Pioneer in the field of Neonatal Dermatology

University of Cincinnati College of Medicine
and Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, ***U.S.A***

Visit of Prof William Tarnow-Mordi

Head, WINNER Centre for Newborn Research, Westmead Hospital
NHMRC Clinical Trials Centre, University of Sydney

Visits of International faculty to NICU

Visit of Prof Graf
Pioneer of Neonatal Hip Sonography

Head, Pediatric Ortho
University teaching Hospital

Visit of Prof Kathryn Currow

Associate Professor,
University of Sydney
Executive Principal, DCH,
CHW Westmead, NSW,
Australia

Visit of Dr Ian Callender - Pioneer in the field of Neonatal Database system

University of Sydney
Liverpool Hospital, Sydney

Area of interest :

A – Dr Nandini Malshe

1.Nutrition – Enteral & Parenteral
2.Growth & Development
3.Follow up of VLBW

B- Dr Sujata Deshpande

1.Late onset Neonatal sepsis
2.Placental transfusion in SGA
3.Writing papers

C- Dr Pradeep Suryawanshi

1.Point of care Neonatal Ultrasound
2.Neonatal Functional Echocardiograpghy
3.Mentoring young guns & NICUs

Changes in Last 10 years

Parameter	2007	2016
Admissions	594	1500
Outborn admissions	223	700 (50% Outborn admissions)
Ventilation Number	92	420 (1/3rd very sick patients)
Ventilation survival percentage	56%	90% (Since last five years)
Patient refereed for ventilation percentage	13%	40% in last four years
Average remaining patient in NICU per day	14	34 - 38/ day in last five years

Above data indicates we are one of the leading NICUs of India

NICU Facts

NICU Facts

- One of the largest NICU of Maharashtra
- One of the NICUs of India with better infrastructure & outcome
- Capacity of 50 beds with 14 ventilators (1 HFOV) & 4 bubble CPAP
- First unit in India to commence facility of functional echocardiography in NICU since 2008

NICU Facts

- International Collaboration with Sydney (Australia), London (UK) & New York (USA)
- 18 Fellows currently in Sydney, London & Newyork for further fellowship in Neonatology
- Our results are comparable to any unit in India
- Admissions increased from 593 to 1550 in last eight years
- 91% survival of ventilated babies (Critical babies) since last five years
- 2.3% death rate since last five years (Decreased from 4.6% to 2.3%)

NICU Facts

- One of the leading super speciality branches in Bharati Hospital since last six years

- All faculty working at International, national, state & local bodies to improve newborn care in India

Resolutions for next five years

Bharati NICU – Vision 2020

Aim

- To develop the largest NICU of India

- World wide accepted neonatal management by well trained neonatologist at affordable cost for all ("Neonatal Health for all")

Development of largest NICU in India

A - NICU Development:

1.80 Beds NICU – 20 ventilator beds
2.12 beds - Neonatal Cardiac ICU
3.NICU admissions - 2000/ year
4.Development of Level II care at Shirwal/ Lavale/ Bhor

B- Research & Faculty development :

1.International / National Conference – 1/ every 2 years
2.Original articles – 2 / year
3.Case reports / Review / Book chapters – 3/ year
4.Book Publication – 1 / Every 3 years
5.National & International collaborations – 1 / every year

Development of largest NICU in India

C - Training Programs

1. Fellowship in Neonatal Nursing
2. Post graduate Diploma in Lactation
3. Post graduate Diploma in Neonatal Respiratory therapy
4. Post graduate Diploma in Neonatal TPN

D – Innovations & Further Developments :

1.Human milk Banking
2.Near Infrared Spectroscopy
3.Amplitude integrated electroencephalography (aEEG)
4.Therapeutic Hypothermia
5.Air Ambulance

Bharati NICU – Dream 2025

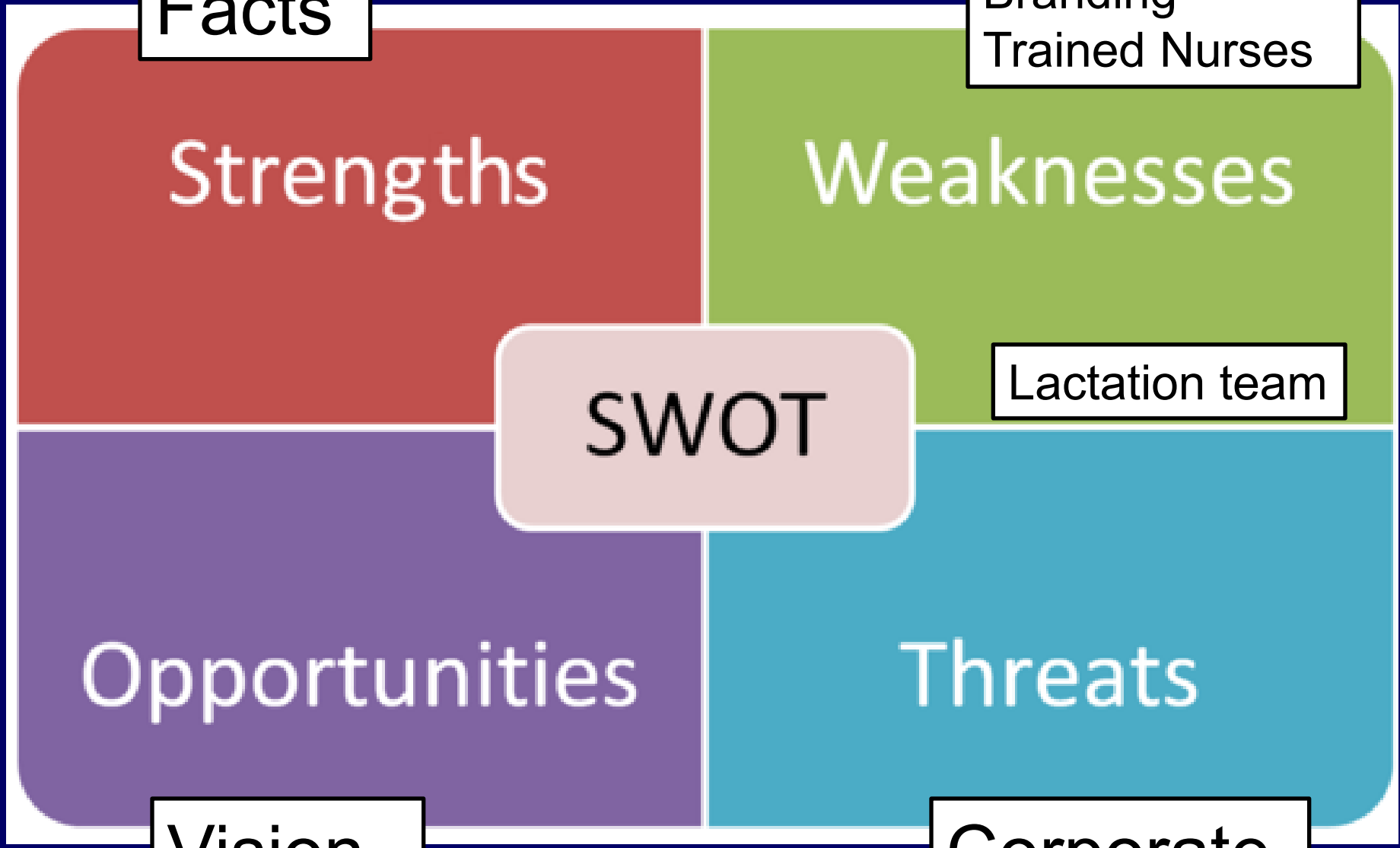
Transformation of "Bharat" Neonatology Through "Bharati" Neonatology

DM Neonatology - Best DM Curriculum
100 bed NICU

International / National Conference – 25

Original articles / Case reports / Review / Book chapters – 50

International Collaborations – 25


Facts
Hospitality
Branding
Trained Nurses
Strengths
Weaknesses
SWOT
Lactation team
Opportunities
Threats
Vision
Dream
Corporate
Hospitals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