

Gap Analysis of Special Newborn Care Unit- Chhattisgarh (SNCU)

By

Kedarnath Dansena

*Dissertation submitted for the partial fulfillment of the
MBA Pharmaceutical Management*

Academic year, 2017-2019



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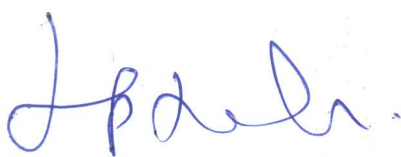
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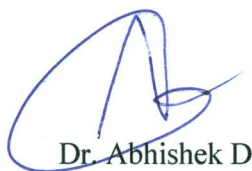
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I wish him all success in all his future endeavours.

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

Dr. Sandeep Narula

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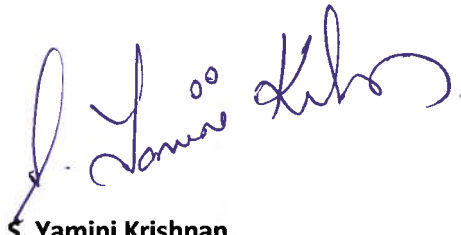
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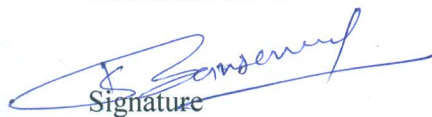
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Director Human Resources, South Asia

THE IIHMR UNIVERSITY, JAIPUR

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This is to certify that dissertation titled **Gap Analysis of Special New Born Care Unit (SNCU)** and submitted by **Kedarnath Dansena**, 0102 under the supervision of **Dr. Abhishek Dadhich** for award of MBA in Pharmaceutical Management at University carried out during the period from **04th February, 2019** to **03th May 2019** 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 similar institution of higher learning.

Kedarnath Dansena



Signature

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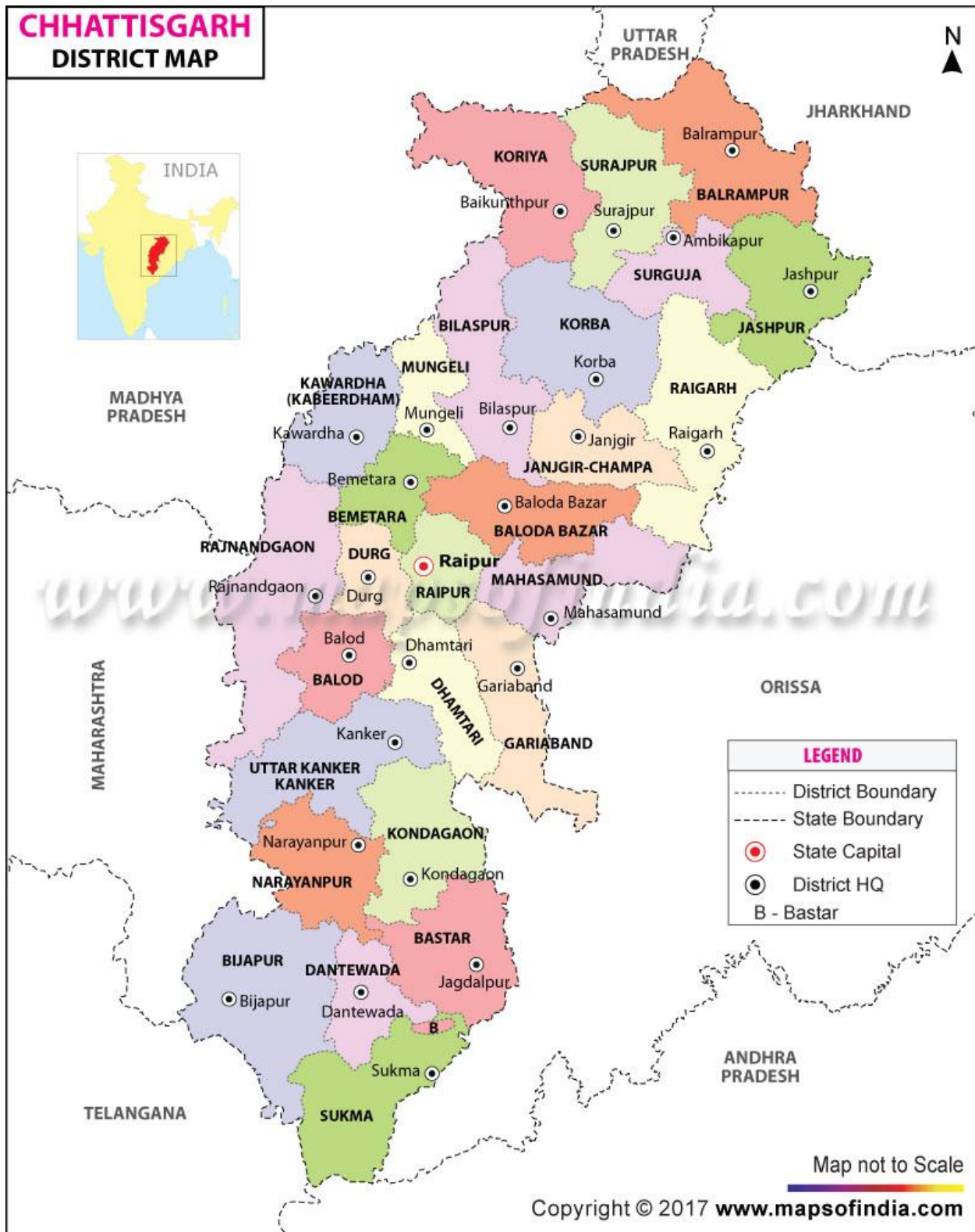
SYNONYMS

AMC -Annual Maintained Cost ANM - Auxiliary Nurse Midwife ANC - Antenatal Care BA -Birth Asphyxia BP -Blood Pressure CFL -Compact Fluorescent Light EBM -Expressed Breast Feeding ELBW - Extremely Low Birth Weight FBNC -Facility Based Newborn Care GIR -Glucose Infusion Rate GOI -Government of India HEP-B -Hepatis B HIE -Hypoxic Ischemic Encephalopathy HR -Heart Rate IAP - Indian Academy of Paediatrics IMNCI - Integrated Management of Neonatal and Childhood Illness IMR -Infant Mortality Rate IANN -Indian Association of Neonatal Nursing IV -Intravenous IVF -Intravenous Feeding JSY -Janani Surakhsha Yojana KCL -Potassium Chloride KG -Kilogram	LBW -Low Birth Weight MAS -Meconium Aspiration Syndrome ML -Millilitre MVA -Manual Vacuum Aspiration NBCC - Newborn Care Corner NBSU -Newborn Stabilization Unit NIBP -Non-Invasive Blood Pressure NMR -Neonatal Mortality Rate NNF -National Neonatology Forum NRHM -National Rural Health Mission NS -Normal Saline NSSK -Navjat Shishu Suraksha Karyakram OPV -Oral Polio Vaccine OT - Operation Theatre PHC -Primary Health Center RCH II -Reproductive Child Health Programme II RDS -Respiratory distress Syndrome SNCU - Special Newborn Care Unit SRS – Sample Registration System U5MR – Under-5 Mortality Rate VLBW – Very Low Birth Weight WHO - World Health Organisation
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Brief About Study Area

Chhattisgarh map.

CHHATTISGARH DISTRICT MAP



Details of CHHATTISGARH:-

Area - 135,191 Sq. Km.

Area Rank - 10

Population- 2.56 Cr. 2011

Population rank- 5th

Capital - Raipur

Big City- Raipur

Districts-27

Government

Governor - Anandiben patel

CM - Bhupesh Baghel (Congress)

Health Minister- Mr. Ajay Chandrakar

CHHATTISGARH AND INDIA COMPARISON

Factors	Year	“unit”	Chhattisgarh	INDIA
.Geographical Area.	2011	Lakh Sq. Km.	1.92	33.87
.Population.	2011	Crore	2.56	122.09
.Decadal Growth Rate.	2001-2011	Percentage	22.59	18.8
.Population Density.	2011	Population Per Sq. Km	189	381
Total population in urban area	2011	Percentage	27.63	30
Literacy Rate	2011	Percentage	70.28	72
Birth Rate	2015*	Per 1,000 Population	23.2	21
Death Rate	2015*	Per 1,000 Population	7.5	6.9
.Infant Mortality Rate	2015*	Per 1,000 Live Birth	41	39
Maternal Mortality Ratio.	2014-16**	Per Lakh Live Birth	173	169
.Life Expectancy at Birth.	2010-14*	Year	64.8	68

SNCU

INTRODUCTION- SNCU

In India, 02 Cr 60 lakh babies square measure born once a year and 09 lakh 40 thousand babies death before 01 month of life, Republic of India have the sole largest sharing twenty to thirty. you take care of baby death rate at intervals the planet. The time cycle of life of just 28 days; but, death rate (NMR) contributing to relating to 02/03 of death rate (IMR) and relating to ratio.

Elements/Components of SNCU

Inborn Care Area-

all babies that square measure delivered in hospitals itself square measure unbroken within these space. it's necessary to separate inborn space with different area.

Out born Care Area-

babies that square measure referred in by level I hospitals (FRU- initial referral Unit) square measure unbroken here for correct care.

Step 1- down unit:-All the neonates World Health Organization don't would like intensive observance care square measure unbroken here. The Some hospitals have provision to remain their mothers at the side of babies having furtherbeds for his or her mothers.

Triage area:

It belongs to space wherever the priority of patients square measure set, i.e the babies got to shift in inborn care or step down space.

Newborn ward:-

This may be a additional 10- twenty 5 beds, where every mother and additionally the newborn rest. This facility is to be used for neonates agency would like least support like for radiation, for uncomplicated LBW babies requiring entirely observation and other people babies agency would like entirely vas antibiotic treatment.

Ancillary area:

Distinct support space have to be compelled to be provided for all totally different services that unit of measurement routinely performed at intervals the SNCU.

The accent house have to be compelled to embody space for the following:

- Nursing work station, hand laundry and gowning space at the entrance”
- Side laboratory room
- Follow-up clinic
- Examination area
- Clean space for mixture blood vessel fluids and medications
- Store space and power space
- Teaching and coaching space
- Place for in- house facility for laundry, drying, boiling and autoclaving
- Duty space for doctors and nurses
- Place for promotion of breast- feeding and learning mother craft etc

“Human resources for Special Newborn Care Unit”

“A twelve bedded unit (plus four beds for the step- down area) desires a minimum of 1 medical specialist or four trained MBBS doctors. it's purposed that one medical specialist trained in paediatrics have to be compelled to be denote at the unit, supported by two or three medics trained in FBNC. There have to be compelled to be threenurses in each shift, round the clock and adequate nurses recruited to supply for leave vacancy and contingency.”

Dedicated support staff have to be compelled to be accessible to wash the unit a minimum of once throughout every shift and extra usually betting on the need. A part- time research laboratory technician, a counselor, and a data entry operator have to be compelled to even be denote at the unit”

Equipment's for SNCU

- Radiant heaters
- Incubators
- Transport setup
- Pulse measuring device
- Apnea monitor

- BP monitor
- Thermometer
- Weighing scale
- Transcutaneous haematoidin meter
- Blood gas monitor
- Phototherapy unit
- Infusion pump
- Oxygen instrument
- Flux meter
- CPAP machine
- Neonatal Ventilator
- Suction machine
- Breast pump
- Manual resuscitator

RATIONALE OF STUDY

Infant mortality is higher in low and middle-income countries. 99% account of deaths occurred in developing countries, around (25-30%) deaths occurred in India. 0.94 million out of 26 million babies die before reaching one month of life in India. Neonatal death constitutes about 2/3 of all the infant deaths with NMR 34/1000 livebirths (Source: SRS2009). Preventable diseases such as hypothermia, asphyxia, infections, and respiratory distress are the main cause of neonatal death. NMR of India in 2004 was 58/1000 live birth and declined steadily in 2009(50/1000 live births) However, there is slow progress recorded in NMR which declined from 37 in 2004 to 34 in 2009. Reduction of deaths of newborns in India has shown least progress in first week of life.. Infant mortality is high in Bihar, infant mortality rate 38/1000 live births (Source SRS2016) is on the decline and is almost at par with MDG 2000-15 but is below the national achievement (25/1000 live births). IMNCI is a programme in which contact with newborns at their house, detection and referral of sick newborn to the hospital facility and giving newborn care and care for sick newborn at district and subdistrict level. but been found there is lacking above services. Due to failure of this programme another new program was introduced called FBNC this programme have potential to reduce infant mortality in India as well as in high burdened infant mortality states of India”

REVIEW OF LITRETURE: -

S.No	Author	Study Title	Study Area	Yaer	Study population	Result
1.	Jarina Begum	Evaluation of Antenatal to Neonatal Continuum Care Services Affecting Neonatal Health in a Tertiary Health-Care Setup	Odisha, India	2016	Registered patients at SNCU of MKCG Medical College and Hospital, Odisha	23% sick newborns were treated under integrated mangement of neonates and childhood illness, among them 56% were given given proper advice(2).
2.	Anuradha D.	Profile on the basis of assessment of sncu in hospitals	Chennai, India	2018	All neonates admitted to NICU.	Among 2927 most were boys, most of babies without complication, there was high mortality in outborn due to extreme preterm and neonatal sepsis(3).
3.	Sathya Jeganathan	Transport from the Community and Preterm Survival: Study from a Rural Based Sick Newborn Care Unit of South India	Kanchipuram, India	2016	SNCU online database of National Rural Health Mission in Chengalpattu Medical College Hospital	338 preterm were admistted during from may 2015 to september 2015. The mean duration of stay in SNCU for inboran was 12.2 days and for outborn was 9.46, more male babies were in admission. 245 survived among inborn and 47 suvived outborn(4).
4.	Malhotra S.	Assessment of essential newborn care services in secondary-level facilities from two districts of India	Madhya pradesh and rajastan	2014	For each distric One DH & 2 CHC	Still birth rate of both the districts was 38/1000 live births, more births were recorded at chattarpur district. In condition of

						specialized care prefer paediatric ward. Register had incomplete information of inborn and outborn babies. Most of deaths due to sepsis in both the districts(5).
5.	S B Neogi	Assessment of Special Care Newborn Units in India	West Bengal, Orissa, Andaman and Nicobar Islands, Madhya Pradesh, Rajasthan Uttar Pradesh, Assam and Bihar	2011	8 SNCU of each state	Majority of pateint were male, Most admission from the same hospital, around 40% of admitted babies weighted 1500-2499gm, prime morbidities in 8 districts were asphyxia, sepsis and LBW. Only 2 units compiled with recomandations(6).
6.	A. sen	Impact of a district level sick newborn care unit on neonatal mortality rate: 2-year follow-up	Westbengal , India	2009	Every neonates admited in purulia district hospital	Trained doctors were available round the clock, 413 babies were admitted from the establishment of SNCU(within 1 year). 55.3% .

1. "As per the information given by the mothers of sick neonates, all of them had taken the two doses of tetanus toxoid (TT) immunization but only 72% had attended the full antenatal checkups (ANC) (≥ 4 ANC), 58.7% mothers had taken the full course

of iron and folic acid (IFA) tablets (100 tabs), 1,779 (87.1%) had undergone institutional delivery among whom 1,552 (90.4%) had utilized the Janani Surakshya Yojana (JSY) scheme benefits, and out of 1,717 (96.5%) eligible mothers, 48.34% had taken their postnatal checkups" (PNC)

2. "Similarly, during the interview regarding neonatal health services it was observed that 84% neonates had taken the required immunization, 56.6% neonates had some sort of prelacteal feeding, 59.01% sick neonates were on exclusive breast feeding, and rest were on artificial milk or other fluids. Among the 2,042 sick neonates admitted, 189 babies [extremely low birth weight (<1,000 gm.) baby + low birth weight (<1,500 gm) baby] were unable to suck the breast milk in the first day and were on external fluids. Therefore, only 53.03% of the neonates were initiated breast feeding within 1 h, and 38.9% were paid home visits by Anganwadi workers (AWWs) at least once after delivery" (excluding the first visit that is on the first day of birth)

Primary Objective

To assess the status of Special Newborn Care Units (SNCU) in Chhattisgarh state according to FBNC accreditation tool.

Secondary Objective

1. To assess the availability of human resources against sanctioned post by FBNC guidelines (Facility Based Newborn Care)
 - To assess availability/functional of essential equipments.

Methodology of analysis

Area Study - SNCU of Chhattisgarh

Study design – Prevalence Study

Study Sampling- Grap /Convenience sampling

Sample Size – four Dist.hospitals from Raigarh and Korba Bijapur Narayanpur.

Method of data collection

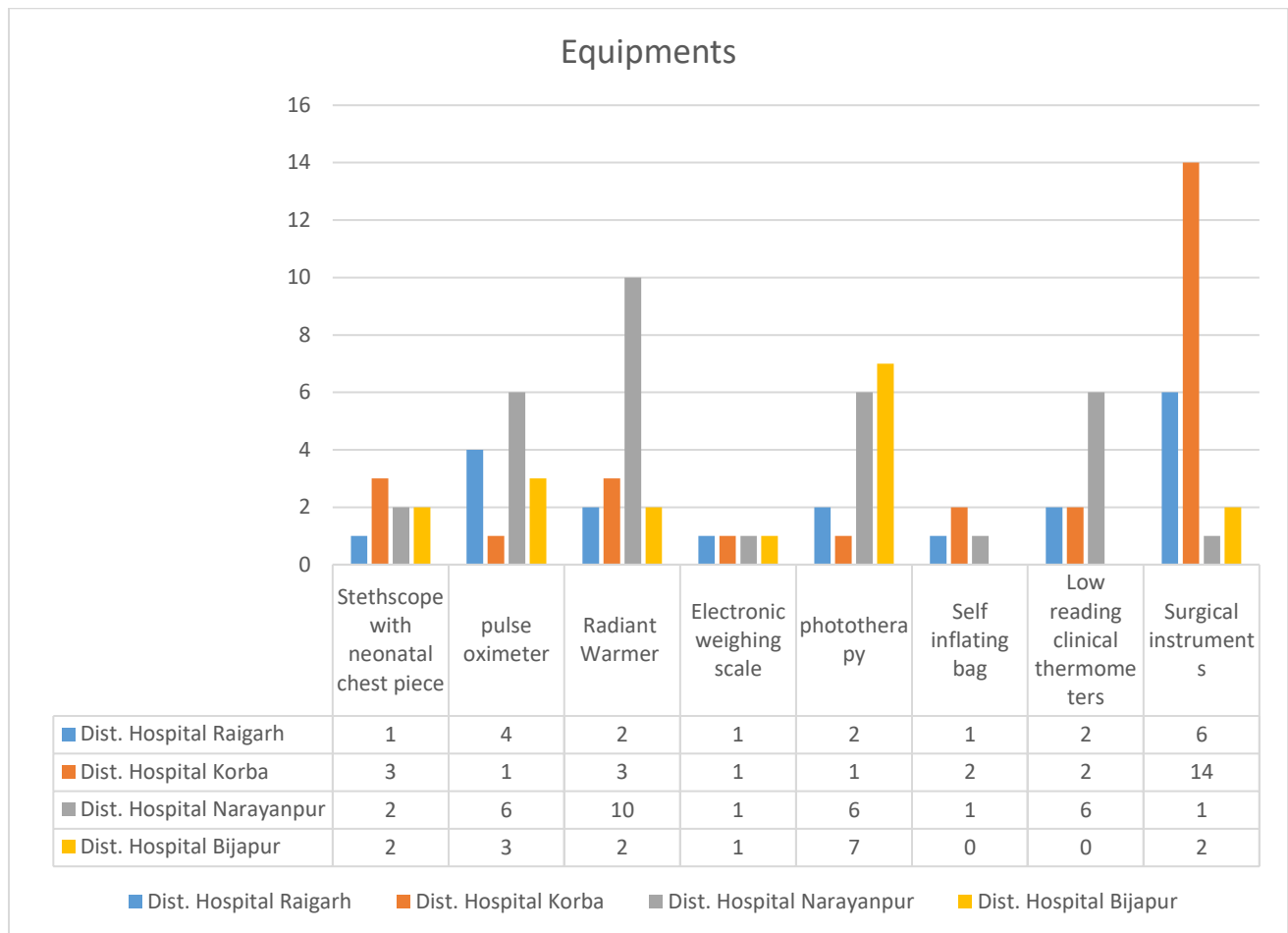
Data collected through Excel sheet.

Tool for data analysis

MS excel used for data analysis pre tested structured FBNC accreditation tool.

FINDINGS & ANALYSIS

Instrument's Analysis-

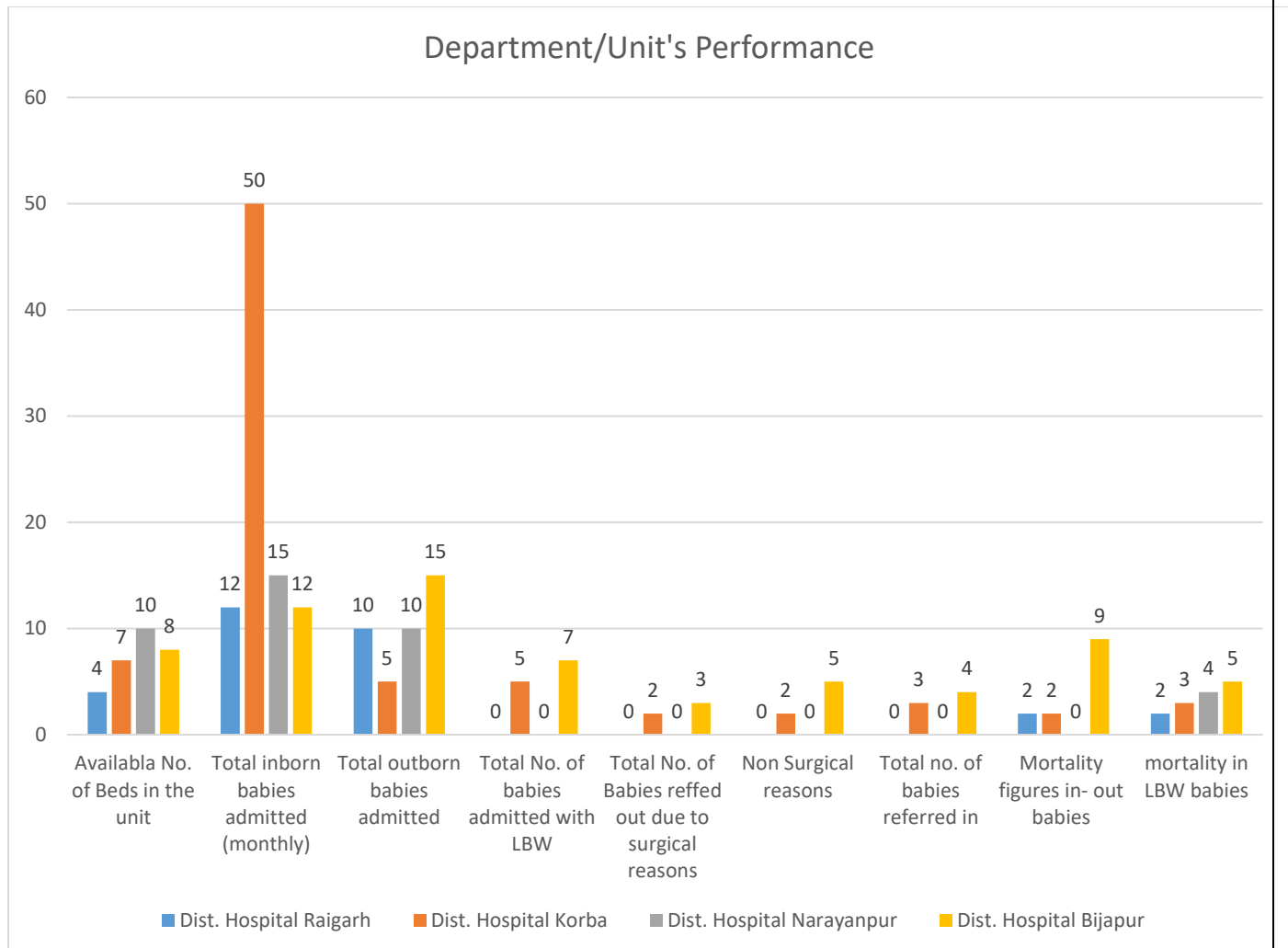


Result/ Findings-

This instrument's in graph are important for SNCU department.

- Dist. Hospital Raigarh Narayanpur and bijapur are having a less instruments.
- Graph shows number of different Instruments and equipements that are less in number in Hospitals and these all are a important to run a SNCU department.

Departmental Analysis-



Findings/Result-

- More no. of death rate have inn found in Dist. Hospital Bijapur.
- According to the survey I found Common symptom for death of neonatal.

HR-Department-

	HR		Available			
S.no	Employee's	Vacancy as per the FBNC guidelines	Dist Hospital Raigarh	Dist. Hospital Korba	Dist hospital Narayanpur	Dist hospital Bijapur
1	Doctor	4	3	4	2	6
2	Staff Nurse	19/22	12	18	25	#
3	Technician's	1	1	1	1	0
4	Operator	1	1	1	1	1
5	Ward boy	4	4	3	2	2
6	Aaya Bai	3	2	2	2	2
7	Sweeper	2	1	1	1	2
8	Guard	3	3	3	3	5

Findings-

- FRU-Doctor and nurses are available on 24hr.
- No of data operator are less and work load are very high.
- Need to a technician. running of instruments are affected due to the no technician are available in Dist. Hospital Bijapur.

Functional areas- observations-

- According to FBNC each bed required to a specific area 100 sq. ft.
- No any specific areas for baby receiving room in Dist.Hos hospital in Korba.
- No Breastfeeding area are not designed by hospital.
- No any Instruction given by the hospital for hand wash and sanitization.

Suggestions

Based on the present study, the following suggestions can be taken into consideration:

- Clerical work related to SNCU on nurses should be minimized so that they can give their time on care of sick newborn.
- Adequate human resources including Lab Assistants and ANMs
- Training of all staff (Doctors and nurses) should be in a regular interval with evaluation of training.
- MD/MCH and MBBS should be exclusively available in SNCU round the clock.
- The government must work on patient trust, most of the parents don't rely on public health facility services.
- The stock of SNCU should be provided separately and there should be the provision of inventory control.
- Equipment is major part for functioning of SNCU and delay in repair should be minimized as soon as possible, There should be right policy to facilitate maintenance of equipment's.
- Equipment include for resuscitation, phototherapy and thermoregulation should be available as well as functional
- Regular training on Handwashing practice and BMW management with an evaluation of training.
- Housekeeping, cleaning need to be followed to prevent infection
- There should be provision for Continuous monitoring and evaluation of special care provided to sick neonates in SNCU

Conclusion-

Gaps, those are trying to find for Strengthening the existed SNCU is crucial to address Neonatal mortality and Infant mortality and this study emphasized an utmost need of high skill building training to health personal posted in SNCU, practice of skills in resuscitation is also critical. Availability of functional equipments, optimal skills to use equipments and hand washing practice will be

important to attain national and SDG. Essential equipments and facility-based care are proven interventions for reducing NMR, IMR and still birth rate among sick newborns; it is mandatory public health facility be equipped and made proficient in skills those are employed in SNCU.

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