

**Summer Training at
UNICEF, Rajasthan**

Assessment of Sick Newborn Care Unit (SNCU) at Banswara

**By
Gargee Pandya**

**Under the guidance of
Dr. Goutam Sadhu**

**MBA- Hospital & Health Management (MBA-HM)
2013-2015**



**INSTITUTE OF HEALTH
MANAGEMENT RESEARCH**

1, Prabhu Dayal Marg

Sanganer Airport, JAIPUR - 302 029, INDIA

Tel. : 3924700, 2791431-32

Fax : 91-141-3924738

E-mail : iihmr@iihmr.org

URL : <http://www.iihmr.org>

Gram : HEALTHINST

CERTIFICATE

This is to certify that **Dr. Gargee Pandya** student of Post Graduate Programme in Health Management, Institute of Health Management Research, Jaipur, batch 2013 – 15. She has done her summer training for the period of **April 1st to May 31st, 2014 with UNICEF Rajasthan in District Banswara, Rajasthan** under my guidance. During this period she has completed her study as a part of partial fulfillment of the course requirements, recommended for the Post Graduate Diploma in Health and Hospital with specialization in Health Management. Topic of study given by UNICEF Rajasthan during her summer training was **“Assessment of Sick New Born Care Unit (SNCU)”**. All the data related to the study is the Primary data. Her approach to the projects has been sincere, scientific and analytical.

I wish her all the best for her future endeavor.



Col. (Dr.) Ashok Kaushik
Dean
(Academic & Students Affairs)

IIHMR, Jaipur



Dr. Gautam Sadhu
Dean
(Rural Management)

IIHMR, Jaipur

Contents

ACKNOWLEDGEMENT	5
PREFACE	6
LIST OF TABLES	7
LIST OF FIGURES	7
LIST OF ABBREVIATIONS	7
UNICEF	8
MISSION	9
OBJECTIVES	9
LITERATURE REVIEW	10
UNICEF RAJASTHAN	11
INTRODUCTION	11
PROGRESS MADE FOR CHILDREN	11
CHALLENGES	11
SICK NEWBORN CARE UNITS	13
INTRODUCTION	13
EQUIPMENTS	13
BACKGROUND	14
Newborn care facilities at different health care levels	14
OBJECTIVES	16
METHODOLOGY	16
OBJECTIVE 1	17
OBJECTIVE 2	17
OBSERVATION 3	18
To study the scenario of SNCU	18
Guidelines	18
INFRASTRUCTURE	18
HUMAN RESOURCE	20
IP protocols (SNCU)	21
SCOPE FOR FUTURE RESEARCH	24
LIMITATION	24
SUGGESTIONS	25

CONCLUSION.....	25
REFERENCES.....	26
ANNEXURES	26

ACKNOWLEDGEMENT

Working on this project proved to be the lifetime experience for me.

I would like to thanks all the study participants who openly shared their experiences in order to enrich my knowledge.

I thank Mr. Anil Agarwal (State representative , UNICEF, Rajasthan) Mr. Sanjeev Gupta ,Dr Apurva Chaturvedi (Health officers , UNICEF (Rajasthan) for their guidance and support throughout the project. I also thank Mrs. Ali (UNICEF representative , Banswara) for giving me an opportunity to take part in their project. A very special thanks to Mrs Ranjana Charpota and staff at district hospital of Banswara for providing their valuable time, support and guidance to me, without which I could have never been able to accomplish the task at hand.

I am grateful to those all who have supported and helped me during my project.

I also express my thanks to my mentor *Dr. Goutam Sadhu* , Dean , Rural Management, IIHMR Jaipur for his consistent guidance & knowledge.

I am thankful to God, My colleagues & all the persons concerned with this project with their blessings.

I hope that I can build upon the experience and knowledge that I have gained and make a valuable contribution towards the industry in coming future.

GARGEE PANDYA

PREFACE

Summer internship is an integral part of the PGDHM curriculum. As a part of the course, students of the first year are required to undergo summer training at an organization to get in depth exposure of various departments in the organization to get a better understanding of the health care delivery system.

The major objectives of the summer training programs are as follows:

- 1) To better understand the existing health delivery system including public and private sectors.
- 2) To observe the implementation of various National Health Programmes at National/State/District levels.
- 3) To understand various functions of health systems by interactions with key stakeholders, policy makers, programme managers, academicians and researchers
- 4) To work on the project/task assigned by summer training organizations.

During my training period I had an overview of various programmes undertaken in UNICEF in collaboration with State governments, including the current status of the programmes. I also carried out a small study on Assessment of sick newborn care unit (SNCU) at Banswara.

I also had the opportunity to visit and assess services and infrastructure at SNCU , District Hospital of Tonk .

LIST OF TABLES

TABLE NO	DESCRIPTION
1	Newborn care facilities at different levels
2	Checklist of equipments
3	Tool for assessing infrastructure
4	Tool for assessing Human resource
5	Tool for assessing IP protocols

LIST OF FIGURES

FIGURE NO	DESCRIPTION
1	Profile of morbidity in SNCU
2	Scenario Of SNCU
3	Radiant Warmer In SNCU
4	Protocols followed in SNCU

LIST OF ABBREVIATIONS

SNCU	Sick newborn care unit
UNICEF	United Nations Children's Fund
IGO	Intergovernmental Organization
NGO	Non Governmental Organization
PHC	Primary Health Centre
NSU	Neonatal Stabilization Unit
NBCC	Newborn Care Centre
IMR	Infant Mortality Rte
U5MR	Under 5Mortality rate
NMR	Neonatal Mortality rate
NRHM	National Rural Health Misson

UNICEF

The United Nations Children's Fund (UNICEF) is a United Nations Program headquartered in New York City that provides long-term humanitarian and developmental assistance to children and mothers in developing countries. It is one of the members of the United Nations Development Group and its Executive Committee.

UNICEF was created by the United Nations General Assembly on December 11, 1946, to provide emergency food and healthcare to children in countries that had been devastated by World War II. In 1953, UNICEF became a permanent part of the United Nations System and its name was shortened from the original United Nations International Children's Emergency Fund but it has continued to be known by the popular acronym based on this previous title.

Most of UNICEF's work is in the field, with staff in over 190 countries and territories.

UNICEF is an intergovernmental organization (IGO) and thus is accountable to those governments. UNICEF's salary and benefits package is based on the United Nations Common System. UNICEF is not funded exclusively by voluntary contributions, and the National Committee collectively raise around one-third of UNICEF's annual income. This comes through contributions from corporations, civil society organizations around 6 million individual donors worldwide. They also rally many different partners – including the media, national and local government officials, NGOs, specialists such as doctors and lawyers, corporations, schools, young people and the general public – on issues related to children's rights

MISSION

The mission of UNICEF is to collaborate with partners to harness the power of communication and social networks to make a positive difference in the lives of children, their families and communities. It promotes the use of a judicious mix of participatory communication strategies and approaches in order to increase the impact of development programmes, accelerate achievement of global and development goals and enhance the ability of families and communities to achieve results for children and realize their rights.

OBJECTIVES

- To provide a clinical service assessing and treating children with diseases
- To promote the equal rights of children, Girls and women
- Support their full participation in the political, social and economic development of their communities.
- Support children who are in need whether providing food to them or education.
- To ensure countries abide by the Convention on the Rights of the Child. This includes mobilizing political will and material resources to help developing countries improve their ability to provide services for children and their families.

LITERATURE REVIEW

In absolute numbers, India is home to more adolescents – around 243 million – than any other country. It is followed by China, with around 200 million adolescents nearly one third of adolescent girls in south Asia are married or in union.

- Young people's use of social media such as Facebook, Orkut in Brazil and India, has grown exponentially over the past few years.
- Nearly 50 per cent of adolescent girls aged 15–19 in India are underweight, with a body mass index of less than 18.5.
- Bangladesh, India and Nigeria alone account for one in every three of the world's adolescent births. (The only industrialised country among the top 10 countries with the highest number of adolescent births is the United States).
- In India, less than 30 per cent of mothers under 20 years old in the poorest households are assisted during delivery by a skilled birth attendant, compared to 90 per cent of young mothers in the richest households.
- Young women in the poorest households are seven times more likely to give birth before age 18 than young women from the richest households in India

UNICEF RAJASTHAN

INTRODUCTION

Located in India's west-central interior, the state is home to over about 68 million people, almost 50% of whom are under the age of 18 years (Census 2011).

PROGRESS MADE FOR CHILDREN

In 2012, Rajasthan government, supported by UNICEF, announced the landmark Girl Child Policy to ensure survival, growth, development and empowerment of girls and also is one of the few in India that has increased the bar on child labour from 14 to 18 years.

The state also pioneered the implementation of Right to Education Act 2009, and the government has acknowledged UNICEF's collaboration in formulation of state rules on RTE.

UNICEF has been an active partner, supporting the governments in planning and implementation of flagship programmes and working towards accelerating progress on social development indicators.

CHALLENGES

Apart from the sheer size of opportunities, contrasts and challenges in the human capital of the state, the marked differences between geographical location (rural and urban), social groups (caste and religion), rich and poor and between sexes, is stark.

The tribal dominated districts of Banswara, Dungarpur and Udaipur, with difficult geographical terrain have consistently lagged behind on vital social development indicators. For instance, the mortality rates among rural children and children belonging to SC/ST groups remain much higher (SRS & AHS 2010-11 data).

A high percentage of children under-three are undernourished i.e. stunted, severely wasted and anaemic, which puts them at risk of impaired growth, serious illness and even early death. A high percentage of children under three are underweight and anaemic, which puts them at risk of serious illness and even early death.

UNICEF is working with the government towards promotion of appropriate child care and feeding practices, special centres for severely malnourished children have also been set up across several districts in the state. Being a partner of choice for the Government of Rajasthan, UNICEF is working on a set of models and demonstrations of delivery of essential interventions and approaches in high focus districts such as Udaipur, Dungarpur, Barmer, Banswara etc to ensure survival, growth and development of children, especially those belonging to marginalized communities.

SICK NEWBORN CARE UNITS

INTRODUCTION

Special NewbornCare Units (SNCUs) have been set up to provide quality level II newborn-care services in several district hospitals to meet this challenge. The units are located in some remotest districts where the burden of neonatal deaths is high, and access to special newborn care is poor. The study was conducted to assess the functioning of SNCUs in eight rural districts of India. The evaluation was based on an analysis of secondary data from the eight units that had been functioning for at least one year.

Three levels of neonatal care are envisaged. Newborn-care corners are established at every level to provide essential care at birth, including resuscitation. Level I care includes referral of sick newborns from Primary Health Centres (PHCs) to higher centres and care at Neonatal Stabilization Units (NSUs) in the first referral units. Care in the NSUs includes stabilization of sick newborns and care of low-birthweight (LBW) babies not requiring intensive care. Level II care includes functioning of Special Care Newborn Units (SNCUs) at the district hospital level. These units are equipped to handle sick newborns other than those who need ventilatory support and surgical care. The level III units are the neonatal intensive care units.

EQUIPMENTS

Community-based neonatal interventions aim for increased referral of sick newborns to facilities, largely to be catered by these SCNUs, thus acting as a powerful intervention to transfer the value of both community and facility-based healthcare. These units are essentially equipped with radiant warmers, phototherapy units, oxygen concentrators, pulse oxymeters, and intravenous infusion pumps, enough to treat and take care of babies with birth asphyxia, jaundice, sepsis, and LBW. These units cater to both inborn and outborn sick neonates

recommended nurse:bed ratio is 1:1.2 while the doctor:bed ratio should be 1:4. It has been estimated that around 15-20% of all newborns require level II care in rural setting.

BACKGROUND

- India accounts for 30 per cent of the neonatal deaths globally. Though IMR has declined from 146 in 1951 to 50/1000 live births , reduction in neonatal mortality rate is almost static with 31/1000 live births.
- NMR contributes to about two-thirds of infant deaths & nearly half of all under-5 deaths.
- Thus, there is increasing need to focus on newborn care & survival for significant reduction in IMR & U5MR and strengthen the care of sick, premature, low birth weight newborns at the various levels of facilities right from the moment of birth through the neonatal period.
- To address the issue of high neonatal mortality Special Newborn Care Units (SNCU's) are being set up under NRHM at district level across the state.

Newborn care facilities at different health care levels

TABLE1 :- facilities for newborn at different levels

	ALL NEWBORNS AT BIRTH	SICK NEWBORNS
Primary Health Centre	Newborn Care Corner in Labour Rooms	Prompt Referral
Community Health Centre	Newborn Care Corner in Labour Rooms and in Operation theatres	Neonatal Stabilisation Unit
District Hospital	Newborn Care Corner in Labour Rooms and in Operation theatres	Special Care Newborn Unit

As regards to the administrative set-up the district is divided into 8 blocks wise.

Kushalgarh, Ghatol, chota dungra ,Talwara, partapur Chhoti Sarvan and Bagidora.

The neonatal mortality rate in India is high and stagnant. Special Care Newborn Units (SCNUs) have been set up to provide quality level II newborn-care services in several district hospitals to meet this challenge. The units are located in some remotest districts where the burden of neonatal deaths is high, and access to special newborn care is poor

Provision of secondary level care or Special Care Newborn Units in India is a big leap to reduce the stagnant NMR. The first unit was established in 2003 in one of the remote districts and within a span of 3-4 years of initial success, scaling up has taken place rapidly, now covering more than 150 districts.

Reduction was observed in mortality due to low birth weight and sepsis but not on asphyxia. The amount of reduction was greatly influenced by the trainings conducted and hand holding done during induction. Adherence of the staff to guidelines and protocols, aseptic measures followed in the units were the key determinants of the performance of a unit. However, a reversal of trend in the decline has been observed in some units in the second year of its functioning.

OBJECTIVES

- ⊙ To study survival status of new born admitted in SNCU at time of discharge.
- ⊙ To see the profile of morbidity among children in SNCU.
- ⊙ To study the scenario of SNCU

METHODOLOGY

- ⊙ Study population: Newborns admitted in SNCU, Banswara.
- ⊙ Study Place: SNCU , District hospital Banswara.
- ⊙ Study period : April 1 to May31 , 2014
- ⊙ Study design: Cross-sectional
- ⊙ Study Respondents:-

Quantitative data – staff at SNCU

- ⊙ Data collection:

Quantitative data- referral forms, admission files & data from SNCU online for admission in SNCU

Qualitative data- Relevant information obtained from service providers, attendants to see scenario of SNCU

OBJECTIVE 1

Table 2 predicts survival status of newborn born from January to march 2014 in Banswara. Total survival rate at discharge from SNCU from Jan to Mar was 84.61%. (male:85.17%, female 81.1%)

Total	Alive	Dead
226	185	41

TABLE 2:- Survival status of newborn at Banswara from Jan to March 2014

OBJECTIVE 2

PROFILE OF MORBIDITY AMONG CHILDREN IN SNCU

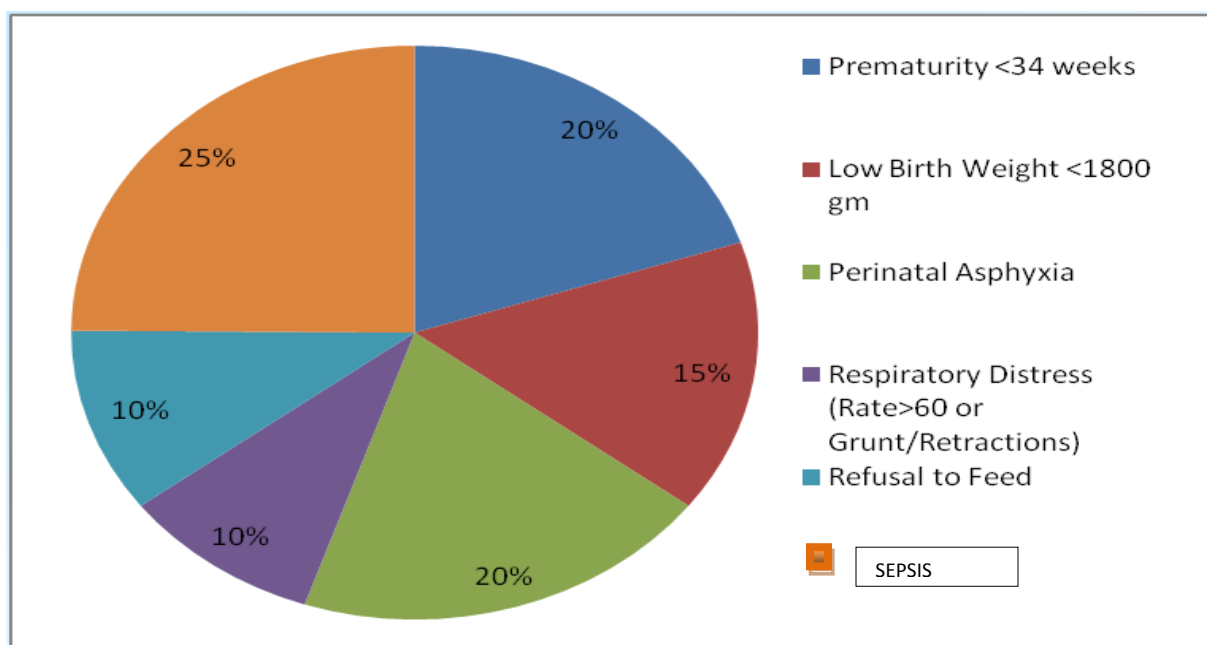


Figure 1 - profile of morbidity in SNCU

FIGURE 1: Morbidity profile of SNCU

Interpretation:- Above fig. Depicts that maximum babies get ill because of Sepsis(25%) , followed by prematurity (20%) and perinatal asyphxia(20%). Very less babies get ill because of respiratory distress and refusal to feed.

OBSERVATION 3

To study the scenario of SNCU

Guidelines

- ⊙ Separate step down unit, feeding area should be present.
- ⊙ Elbow operated hand washing station should be present.
- ⊙ Room temperature should be within 26 – 28 degree Celsius.
- ⊙ Separate rack of shoes should be present.
- ⊙ Separate ancillary and gowning area should be there.

INFRASTRUCTURE

- ⊙ Separate step down unit present.
- ⊙ Triage point was present.
- ⊙ Separate feeding area in SNCU present.
- ⊙ Attached toilet with SNCU present.
- ⊙ Separate ancillary area.
- ⊙ Separate gowning area present.
- ⊙ No different units for inborn/outborn.
- ⊙ Elbow operated hand washing station absent.
- ⊙ No separate rack for slippers.
- ⊙ AC was not in working condition.



Figure 2- Scenario of SNCU



Figure 3- Radiant warmer in SNCU

Interpretation- Reflects the burden on SNCU in Banswara as one radiant warmer used by two babies.

Equipment	Quantity Required	Available	Functional
Radiant warmer	12	16	16
Phototherapy unit	6	6	6
Suction pump	2	1	1
Oxygen hood, S and M, set of 3 each, including connecting tubes	6	5	3
Oxygen supply system	1	-	-
Thermometer (clinical / digital)	12	3	3
Electronic baby weighing	4	2	1
Pulse oxymeter , bedside, neonatal	6	4	3
Stethoscope	12	4	4

TABLE 2:- List of Equipments

Interpretation- Table above predicts list of equipments present in SNCU , with showing number of functional equipments , all compared to checklist given in SNCU online.

HUMAN RESOURCE

⊙ No. of FBNC Staff :

pediatrician – 2(no should be 3)

Staff nurse -12

⊙ Staff nurses were trained in management of hypothermia and jaundice

⊙ Staff was trained in resuscitation and other procedures.

⊙ No Pediatrician available round the clock

⊙ Maximum work of staff nurses was handled by the interns without any supervision.

⊙ There was no part time lab technician was available

- ⊙ Either one or two nurses were available in each shift
- ⊙ Guard was not present.

IP protocols (SNCU)

- Wet mopping of room was done three times a day.
- Shoes and slippers were changed before entering SNCU.
- Bins were covered and emptied at regular intervals.
- Radiant warmers were not cleaned routinely.
- Disinfectant was not used in mopping.
- Bins were not cleaned and washed properly.
- Suction catheter was not changed after using on each baby.
- Mouth mask, head cap and gown was worn before entering into SNCU.
- Gloves were not worn before handling the baby.



Figure 4- Staff handling baby

INTERPRETATION :- Figure above clearly states that staff doesn't follow protocols for infection control, as baby is handled without using gloves , which can lead to infection.

TABLE 3 :- Tool for assessing Infrastructure

	FACILITY-BASED DETERMINANTS	
A	INFRASTRUCTURE	BAN
1	Are there Different units for Inborn/Outborn? a) Yes b) No	0
2	Is there elbow operated Hand washing station in FBNC? a) Yes b) No	0
3	Is there a separate Step down unit? a) Yes b) No	0
4	Is there separate Feeding area in FBNC? a) Yes b) No	1
5	Is there attached toilet with FBNC? a) Yes b) No	1
6	Is there separate Gowning area in FBNC? a) Yes b) No	1

TABLE 4:- Tool for assessing Human Resource

B	HUMAN RESOURCES	ban
1	Is Pediatrician available round the clock? a) Yes b) No	0
2	Availability of 3 nurses in each shift round the clock? a) Yes b) No	0
3	Doctors and staff trained in FBNC are retained in unit and are not rotated in duties outside the unit? a) Yes b) No	1
4	Knowledge of Staff:	
4a	Management of Hypothermia (use of Radiant warmer), & Management of Jaundice (use of Phototherapy).	1
4b	Resuscitation (use of Ambu bag and mask).	1
4c	Steps of Hand washing.	0

CODES — YES - 1 ; NO - 0

TABLE 5 :- Tool for assessing Protocols

F	I P PROTOCOLS	BAN
1	Whether the Radiant warmers are being cleaned routinely? a) Always b) Sometimes c)Never	1
2	Are walls and sink being cleaned with phenol and Lysol once a day? a) Always b) Sometimes c)Never	2
3	Is wet mopping of room being done 3 times a day? a) Always b) Sometimes c)Never	2
4	Are shoes and slippers changed before entering the SNCU? a) Always b) Sometimes c)Never	0
5	Are the bins covered and emptied at regular interval? a) Always b) Sometimes c)Never	2

CODES - NEVER- 0 ;SOMETIMES - 1 ;ALWAYS- 2

INTERPRETATION:- Table 3 , 4 ,5 are tools prepared by us to assess infrastructure , human resource and protocols respectively. This questionnaire was asked to staff and then was compared to guidelines provided.

SCOPE FOR FUTURE RESEARCH

- ⦿ Co relation between proper IP protocols and survival status of newborn.
- ⦿ Association between transfer time from SNCU to labor room and mortality.

LIMITATION

- ⦿ Details in form were not duly filled.
- ⦿ Negative mindset of staff regarding behavior change.
- ⦿ Data entry operator was not available most of the time.
- ⦿ Time constraint

SUGGESTIONS

- ⊙ Paediatrician should be available round the clock.
- ⊙ There should be elbow operated hand washing station.
- ⊙ Proper hand washing practices to be followed.
- ⊙ Gloves, mask, gown and head cap to be worn before entering SNCU.
- ⊙ Suction catheter to be changed before every use.
- ⊙ Separate units for inborn and outborn should be there.
- ⊙ Availability of three nurses in each shift
- ⊙ Quantity of equipments should be increased (Hand operated Resuscitator , Suction pump, Oxygen hood etc.)
- ⊙ Details in the admission form should be duly filled by doctors.
- ⊙ There should be a shoe rack.

CONCLUSION

- Gaps were observed in while comparing to guidelines as equipments were not sufficient to handle the burden of SNCU
- Also, Protocols were not handled properly so more babies were getting ill because of cross infection as two babies were kept in one warmer and gloves were not worn while handling them.

REFERENCES

- **Sncu online**
- **UNICEF factsheet**
- **http://www.unicef.org/india/SCNU_book1_April_6.pdf**
- **<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3225112/>**
- **http://www.scnumponline.org/4-Guidelines/Training%20material/1-%20Initial_Pages.pdf**
- **http://www.unicef.org/india/media_7626.htm**

ANNEXURES

- **Checklist of SNCU**