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**An Assessment on Facility Based Newborn Care at Various Levels of Public
Health Facilities in Pulwama and Anantnag Districts of J&K**

**By
Naseer Ahmad**

**Under the guidance of
Dr. Santosh Kumar**

**Post Graduate Diploma in Hospital and Health Management
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**INSTITUTE OF HEALTH
MANAGEMENT RESEARCH**

1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 011, 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. Naseer Ahmad Rather from Institute of Health Management Research, Jaipur has undergone Summer Training from National Rural Health Mission (NRHM), Jammu and Kashmir from 9th April, 2012 to 1st June, 2012.

The candidate himself carried out the project. His approach to the study has been sincere, scientific and analytical. This summer training is partial fulfillment of the course requirement is recommended for the award of post graduate diploma in health and hospital management.

I wish him success in all his future endeavors.



Dr. P.R Sodani , Ph.D
Dean Training & Academic and Students Affairs
IHMR, Jaipur



Dr. Santosh Kumar
Associate Professor
IHMR, Jaipur



MISSION DIRECTOR NATIONAL RURAL HEALTH MISSION, J&K

Jammu Office: Regional Institute of Health & Family Welfare, Nagrota, Jammu.
Telefax: 0191-2674114; 2674244; email: mdrhmk@gmail.com

Kashmir Office: J&K Housing Board Complex, Chanapora, Srinagar 190015
Telefax: 0194-2430359; email: dnokashmir@gmail.com

TO WHOM IT MAY CONCERN

This is to certify that **Dr. Naseer Ahmad** has done his summer training in NRHM Jammu & Kashmir from April 2012 to June 2012. He worked on the project "**An assessment on Facility Based Newborn Care in Pulwama and Anantnag districts of J&K**". He was found sincere & hard working during this tenure. We wish him all the best for his future endeavours.


Mission Director
NRHM, J&K

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Acronyms used in the study

ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
APH	Ante-Partum Haemorrhage
APL	Above Poverty Line
ASHA	Accredited Social Health Activist
AWW	Anganwadi Worker
BCC	Behaviour Change Communication
BCG	Bacillus Calmette-Guerin
BPL	Below Poverty Line
CHC	Community Health Centre
DLHS	District Level Household Survey
ELBW	Extremely Low Birth Weight
FBNC	Facility Based Newborn Care
F-IMNCI	Facility based Integrated Management of Newborn and Childhood Illnesses
IEC	Information, Education and Communication
IFA	Iron and Folic Acid
IMR	Infant Mortality Rate
IUCD	Intrauterine Contraceptive Devices
IUGR	Intrauterine Growth Retardation
IV	Intravenous
JSY	Janani Suraksha Yojana
JSSK	Janani Shishu Suraksha Karyakram
LBW	Low Birth Weight
LM	Lactating Mother
MCH	Maternal & Child Health
MDG	Millennium Development Goals
MGP	Multi Gravida Pregnant
MMR	Maternal Mortality Ratio
MOHFW	Ministry Of Health & Family Welfare
MTP	Medical Termination of Pregnancy
NBCC	New-Born Care Centre
NBSU	New-Born Stabilization Unit
NFHS	National Family Health Survey
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
OBC	Other Backward Class
PGP	Primi Gravida Pregnant
PHC	Primary Health Centre
PNC	Post Natal Care

PPH	Post-Partum Haemorrhage
PW	pregnant Woman
RCH	Reproductive Child Health programme
RTI	Reproductive Tract Infection
SNCU	Special Newborn Care Unit
SC	Scheduled Caste
SRS	Sample Registration Survey
ST	Scheduled Tribe
STI	Sexually Transmitted Infection
TT	Tetanus Toxoid
U-5MR	Under 5 Mortality Rate
UNICEF	United Nations Child Emergency Fund
VLBW	Very Low Birth Weight
WHO	World Health Organisation

Executive summary

Facility based newborn care is focussed on newborn care and survival for bringing significant reduction in IMR and U5MR and strengthen the care of sick, premature and low birth weight newborns at the various levels of health facilities right from the moment to birth through the neonatal period. Facility based newborn care in Special Newborn Care Units (SNCUs), Newborn Stabilization Units (NBSUs) and Newborn Care Corners (NBCCs) at various levels of healthcare system assume significant importance. A rapidly increasing number of newborns are being delivered in hospitals after the launch of JSY (Janani Suraksha Yojana). The roll out of the Integrated Management of Neonatal and Childhood Illness programme has also lead to the increasing contact with newborns at their households and improved detection and referral of sick newborns to the health facilities. These two things have resulted in increased number of sick newborn referrals to the hospitals. However, provision and delivery of services for both essential newborn care and the care of sick newborns in the existing health facilities at district and sub-district levels has been found lacking. Facility Based Newborn Care (FBNC) has a significant potential for newborn survival.

The current assessment establishes the level of newborn health-related knowledge attitudes and practices (KAP) of the delivered mothers and the utilization of services of FBNC in selected areas/villages, and also the level of knowledge level and practices of healthcare providers regarding facility based newborn care.

This assessment utilized multi-stage random sampling. The self-administered questionnaires consisted of two parts (KAP surveys and utilization of services) and were administered to 98 beneficiaries of 8 selected villages under 4 sub-centres of Lalgam and Malangpora in Pulwama and Sethar and Aru pahalgam in Anantnag (2 villages under each SC) in April-May 2008. Also, semi-structured questionnaires with some open ended questions were administered to 47 healthcare service providers. The key findings of the assessment were:

Information and awareness on FBNC is needed among both service providers as well as among the common people.

All the health facilities which are supposed to provide FBNC services should be granted the required infrastructure and other required things for the effective delivery of services of essential newborn care and the care of sick newborns.

Proper training programmes should be given to the concerned staff of SNCUs, NBSUs and NBCCs. Less educated population needs targeted educational interventions so that they can access and avail more and more facility based newborn care services at the health facilities.

Introduction

Neonatal mortality or death is one of the major causes of concern with newborns all over the world, especially developing and under developed countries. Despite some remarkable improvements in neonatal health in recent years, the high mortality rates remain unchanged in many countries. Of the 10 million babies born every year, approximately 4 million infants die during first week, 8 million during first year and around 10 million within 5 years of their life. Out of the 4 million deaths occurring worldwide during infancy, it is estimated that about 1.17 million (30%) deaths occur in India where most of these deaths taking place at home due to lack of proper care. According to United Nations Children's Fund, one in five infants who die within one month after birth is an Indian. Almost fifty per cent of the neonatal deaths occurring within 5 years happen before first 28 days. In the past two decades, there has been a decline in neonatal mortality, between 1.7% and 2.3%, and it is due to the vigorous efforts of government as well as non-government organizations. However, the actual figures would be much higher, since most of the deaths occur in homes and major part of it remains unreported and it requires a new system to figure this out.

There are many causes of neonatal deaths. Complications during pregnancy, poor health condition of mother, lack of proper care during pregnancy, filthy conditions during delivery, critical conditions after birth and improper newborn care are some of the major causes of neonatal mortality. Children also die due to premature birth, severe malformation, obstetric complications, or because of infections caused by harmful practices at home. Even though it is not scientifically proved, low birth weight is also one of the causes of neonatal death. Infections are the major cause of infant mortality after one week of birth. Infants get infected either from hospitals due to various complications or from the home. There are many ways an infant acquires infection at home. Unhygienic environment conditions, improper cord care practices, poor feeding practices etc. can cause infections like sepsis, tetanus, diarrhoea etc., to infants leading to death.

Proper care provided to children is not only crucial for infants but it is also important for maternal health. Parents' knowledge, attitude and practice towards the newborn care have a vital role in the way they treat and care their infants. Proper knowledge about newborn care is the base of proper newborn care. It is basically parents' own responsibility to attain this

knowledge and they must gain it before they deliver their baby. Newborn practices are largely depended and related to newborn knowledge. Good newborn knowledge will lead to positive attitude towards newborns and it reflects in their practices. Lack of proper newborn care knowledge is the main reason behind large infant mortality rates in developing countries. Inadequate knowledge results from many problems in these countries, some of them being finance, illiteracy, early marriage and child bearing as well as lack of experience.

Government and the society has critical role in taking care of these issues and they must handle it proper for a healthier society. Recent decline in neonatal mortality rate is the result of the essential newborn care being provided to the newborns and it showed that essential newborn care has a vital role in improving the health of newborns. Essential newborn care is a wide ranging interventional strategy designed and developed with the aim to improve newborn's health and it is administered before conception, during pregnancy and delivery, after birth as well as during the postnatal period. It is applicable to all those who deal with newborns – parents, relatives, birth attendants etc. – and should be practiced accordingly. An essential newborn care programme comprises of three major components. The first one includes basic antenatal or pregnancy cares, labour or delivery cares and postnatal cares. The next is the early detection of the dangerous signs and symptoms or problems and consultation of medical practitioners. The final is the adequate treatment given to the newborns for various conditions, such as birth asphyxia, sepsis etc. Every human should get these facilities irrespective of their socio-economic status in order to reduce the mortality rates and improve the health of newborns. There are number of interventions in the essential newborn care practice and all of them are important and should be practiced in a proper way for better results. It includes prevention of infection through clean delivery and hygienic cord care, thermal protection by keeping the baby warmth, ensuring proper breathing and resuscitation methods, early and exclusive breast feedings, immunization, treatment of newborn illness, eye care practices, and providing special care to immature and low birth weight infants. Adminstrating these interventions in a proper way would help in reducing the high infant mortality rates to a larger extend. Proper newborn care must be initiated from the conception period itself. Antenatal care has an important role in determining the health and growth of the infants. Good maternal health is very important for the good health of newborns. Skilled attendance during labour and delivery is also important as antenatal and neonatal care. Every year there are considerable numbers of newborns die due to the lack of skilful birth attendants. It is the responsibility of birth attendants to ensure clean delivery. They must be

trained for handling deliveries, preventing hypothermia and to ensure immediate breast feeding. They must provide special care in special conditions like birth asphyxia, low birth weight etc. For babies born with low birth weights, special care such as special warmth, assisted feeding, kangaroo mother care, special hygiene and cord care can be provided as applicable and the birth attendants should be ready for that. The chance for infants getting infected during delivery is very high and in order to prevent this, proper hygienic measures should be taken before the commencement of delivery. Birth attendants should keep their hands and other contacts with umbilical cord clean and hygienic to prevent such infections.

Thermal care is an important component of essential newborn care. Newborn has a normal body temperature of 36.5 – 37.50C. When newborn's body temperature rises above 37.50C, the condition is called hyperthermia and when the temperature goes beyond 36.50C, it is called hypothermia. Both hyperthermia and hypothermia are equally dangerous to newborns. Newborns should keep warmth in order to prevent hypothermia. Newborns are more prone to hypothermia even at normal environmental temperature, if they are not well protected or can happen even because of baby bathing. Hypothermia lead to various complications and even can cause death. Always keep the baby and surroundings dry and warmth to keep the newborn away from hypothermia.

Early and exclusive breast feeding is an important mean of newborn care. Breast milk is very important for infants and it is the best known food for newborns. It provides all nutrients and other elements required for the growth and development of children. Breast milk provides immunity power to infant and contains antibodies that fight against various pathogens – bacteria, viruses – before the baby gets immunity through vaccination. The newborn must be feed within one hour after birth. Birth attendants should ensure proper positioning and attachment during the initial feeding. Babies should be feed exclusively with breast milk for six months and there is no need to provide with any additional feeds or liquids. Additional feeding or supplements will never help the infants in any ways and there is no evidence to support these supplements helping babies for growth or development. Lactating mothers should take additional food to produce sufficient milk for her baby.

Management of newborn illness is important in any newborn care programmes. All signs and symptoms must be recognized, diagnosed and treated as early as possible. Only professional and skilful help must be sought to deal with newborn's health. Immunizing the baby through vaccination help the baby keep away from many diseases and infections. Babies must be

immunized with recommended vaccines at right time. BCG is a common vaccine for all population which is being administered soon after birth. It helps to avoid and prevent tuberculosis related complications. All babies must be vaccinated with hepatitis B vaccine and it is ensured by national immunization programmes in all countries. OPV is another recommended vaccine. OPV helps to acquire early immunity against a variety of diseases and a single dose of OPV is given at birth or 2 weeks after birth. Knowledge is the basis of all activities and it is same in case of newborn care as well. This study aims to assess the level of knowledge of a given population of mothers and the healthcare service providers regarding essential newborn care and the care of the sick newborns. This study hopes to give a picture on the state of level of knowledge and newborn care practices as well as the delivery and utilization of FBNC services of a particular population in the districts of Pulwama and Anantnag (J&K).

Rationale

Neonatal period is the most vulnerable period of human life. This is because the immature immune system of neonates predisposes them to severe infections and other morbidities which can take a precipitous life-threatening course. Though IMR has declined from 146(1950) to 50 (SRS 2009), reduction in NMR is almost static. Furthermore cxNMR contributes to about two-thirds of infant deaths. Hence, there is an increasing need to focus on new born care and survival for significant reduction in IMR and strengthen the care of sick, premature, low-birth weight newborns at the various levels of health facilities right from the moment of birth through neonatal period. In this context, facility based new born care in SNCUs, NBSUs, and NBCCs at various levels of health care system assume significant importance.

At family level, poor feeding and care practices after birth, lack of awareness on recognition of danger signs of illnesses (which are often subtle) further decrease their chances of survival and /or increase their chance of growing in a undernourished growth trajectory in and beyond this period. Hence, there is need to target young so that family members, especially mothers are enabled to appropriately look after themselves during pregnancy, ensure that delivery is conducted in a clean environment and thereafter take optimal care of their infants at home, promptly recognize signs of their infant's illness and seek timely referral. Clearly, for promoting these optimal practices, an understanding of current practices and factors influencing them is imperative to help identify barriers (informational, socio-cultural and service delivery related) and possible context responsive program options to improve these practices.

Hence, the present study was conducted with the following objectives:

Objectives

General objectives:

- To assess the quality of the services under FBNC

Specific objectives:

- To assess the functioning of new born care corners(NBCCs),new-born stabilization units(NBSUs) and special new-born care units(SNCUs)
- to assess the availability of human resources, equipment, and quality care
- To assess the utilization of services under FBNC
- To assess the level of care for sick new born, premature and low birth weight new-borns at the various levels of facilities from birth through the neonatal period
- To evaluate the attitude, knowledge and awareness among delivered women regarding utilization of facility based newborn care services
- To identify the gaps in the implementation of the services
- To analyse the findings and provide suggestions and recommendations for improving the services

Methodology

STUDY TYPE: It was a Cross-Sectional descriptive study

SAMPLE DESIGN: Multi-stage Random Sampling

STUDY RESPONDENTS:

- District level: Chief Medical Officers, Medical Superintendent, Paediatrician concerned, Staff Nurse
- CHC Level: BMO, Paediatrician, Staff Nurse
- PHC level: Medical officer in charge, Staff Nurse
- Beneficiaries from the villages

SAMPLING:

Selection of SDHs/CHCs: From each district, two blocks (SDHs/CHCs) were identified, one closest to the district headquarters and other located remotely.

Selection of PHCs: With the above selection criterion, eight PHCs in the four selected CHCs/SDHs of two districts were selected.

Selection of SCs: One sub-Centre from each CHCs/SDHs was randomly selected by systemic random sampling.

FOR DISTRICT PULWAMA:

Total eighty SCs were divided into four equal groups and then one group of twenty SCs were selected randomly on the basis of chit system. This selected group was further divided into five equal sub-groups and one sub-group was selected through the same chit system. This sub-group of four SCs was further divided into two equal units and finally one unit (comprising two SCs) was selected by the same method.

FOR DISTRICT ANANTNAG:

Total one hundred twenty three SCs were divided into approximately four similar groups and then one group was selected randomly on the basis of chit system. This selected group was further divided into five approximately similar sub-groups and one sub-group was selected through the same chit system. This sub-group of six SCs was further divided into three equal units and finally one unit (comprising two SCs) was selected by the same method.

Selection of Villages: Under each sub-centre, two villages were identified - one nearest to the sub-centre and another distant. In the two districts, four CHCs, eight PHCs, four SCs and 8 villages were thus selected.

Selection of Service Providers:

It included all those staff members who were involved at the various levels to provide essential new-born care and sick new born care.

- Chief Medical Officer (for assessment of constraints only)
- Paediatricians
- MOs (at PHC level)
- Staff nurses

All those not involved in providing new born care services and those who refused to take part were excluded.

Selection of Beneficiaries:

48 beneficiaries of the FBNC scheme were taken from each district including 24 normal newborns and 24 sick newborns. All those infants who had received the newborn care services in the public health institutions (DHs, SDHs or PHC) during their infancy were taken as beneficiaries. The required number of beneficiaries was taken on the basis of the most recent deliveries. Beneficiaries were selected on the basis of data available on infant mortality rate (i.e. 45/1000 live births; SRS 2009) in Jammu and Kashmir. For convenience, 48 beneficiaries from each district were selected. From each village 12 beneficiaries (6 normal newborns and 6 sick newborns) with the most recent deliveries of mothers were taken. When

adequate numbers were not available from the same village, they were then chosen from the adjacent village.

TOOLS AND TECHNIQUES:

Data was collected using semi –structured and open-ended questionnaire for service providers and semi-structured and close ended questionnaires for beneficiaries. Primary and secondary data sources were used for data collection. Primary data was collected from all the respondents. Secondary data was collected from the available reports and the records at the district, sub-district, PHC and sub-centre levels regarding the operational mechanism and utilization of the services under the FBNC. All the data collected was triangulated to have more clarity on the findings at the time of analysis. The study maintained research ethics throughout. Hence data collected was from each District through interviews with service providers and forty-eight beneficiaries.

Data Analysis Plan: Data entry and its analysis were done by using SPSS software along with Microsoft Excel where ever required.

Results and discussion

Pursuant to the objectives, study was carried out to understand the knowledge, attitude and practices of delivered mothers and utilization of the services of FBNC and also know the awareness level among the healthcare service providers.

BENEFICIARIES

48 beneficiaries from each district comprising of delivered mothers of 24 normal and 24 sick newborn babies were selected and interviewed.

General information:

The mothers interviewed in both the districts were mostly between 20-29 years. 56% in district Pulwama and 54.16% (table.1) in Anantnag were in this age group. The rest of the women were in the age group of 30-39 (35.41% in Pulwama and 39.58% in Anantnag) and merely some were in 40-49 age groups (8.3% in Pulwama and 6.2% in Anantnag).

Table.1

Age-group	Pulwama	Anantnag
20-29	27 (56.2)	26 (54.1)
30-39	17 (35.4)	19 (39.58)
40-49	4	3

Socio-economic profile of delivered mothers:

Regarding socio-economic profile, the delivered mothers were asked about the type of family. Most of the mothers i.e. about 66.6 % in district Pulwama and 72.9% (table.2) in district Anantnag lived joint families. About 72.9% of delivered mothers belonged to general category in Pulwama and a bit higher percentage i.e. about 77 % were in district Anantnag of the same category. 60.4% and 64.6% of respondents were in above poverty line category in district Pulwama and Anantnag respectively. There were a significant number of mothers who lived below poverty line.

Table.2

District	Family Type		Caste				Category	
	Joint	Nuclear	SC	ST	OBC	GEN	APL	BPL
Pulwama (48)	32 (66.6)	16 (33.4)	0	0	13 (27.1)	35 (72.9)	29 (60.4)	19 (39.6)
Anantnag (48)	35 (72.9)	13 (27.1)	0	0	11 (23.0)	37 (77.0)	31 (64.6)	17 (35.4)

Education status of delivered mothers and their spouse:

The delivered mothers were assessed for their education level including the education status of their spouses. In district Pulwama, 66.6% of the delivered mothers were illiterate while their spouses were having a lower illiteracy rate i.e. about 56.2% (table.3). There were a higher number of illiterate women in district Anantnag as compared to that of Pulwama. It was about 75% among the mothers and 60.4% among their spouses.

Table.3

District	Education status									
	Self					Spouse				
	Illiterate	V	VIII	X	Graduate	Illiterate	V	VIII	X	Graduate
Pulwama (48)	32 (66.6)	9	4	3	0	27 (56.2)	11	7	3	0
Anantnag (48)	36 (75.0)	8	2	2	0	29 (60.4)	12	5	2	0



Occupation of delivered mothers and their spouse:

Almost all the women in both the districts were housewives. About 89.9% of respondents in Pulwama and 93.6% (table.4) of respondents in Anantnag belonged to this occupation. The spouses of these mothers were mostly farmers and self-employed in both the districts.

Table.4

District	Occupation									
	Self					Spouse				
	House-wife	Self-employed	Govt.	farmer	others	dependent	Self-employed	Govt.	farmer	others
Pulwama (48)	43 (89.9)	2	3	0	0	7	15	4	22	0
Anantnag (48)	45 (93.6)	1	2	0	0	10	17	3	18	0

Birth weight of the delivered children in the sample:

The delivered mothers were asked about weighing of the babies after birth. In both the districts, all mothers reported that their newborns were weighed. The birth weight was recorded from the cards and from the recall of the mothers. About 95.8% newborns in Pulwama and 93.8% newborns in Anantnag were having normal weight i.e. between 2.5-4 kgs. Only a minor percentage, about 4.2 % in Pulwama and 6.2% (table.5) in Anantnag were LBW newborns.

Table.5

Birth weight	Pulwama (48)	Anantnag (48)	Total (96)
Low birth weight (<2.5 kg)	2	3	5
Normal weight (2.5-4 kg)	46 (95.8)	45 (93.8)	91 (94.8)
Overweight (>4 kg)	0	0	0
Unknown/ unweighed	0	0	0

Awareness regarding ANC:

Antenatal care is an important aspect of maternal as well as newborn health. Ideally a pregnant mother should have 4 or more visits during antenatal care. In both the districts, all the respondents had received ante-natal care during pregnancy. The respondents were asked about the number of ANC visits to the health facilities. Almost in both the districts, highest percentage of the mothers had 3 AN visits. It was about 79 % (table.6) in Pulwama and about 81 % in Anantnag. The third visit was done either at her husband's home or at her parent's home. 14.65% respondents in Pulwama and 16.75 % in Anantnag had visited the health facilities for antenatal care only 1-2 times during their pregnancy. The percentage of mothers who had 4 or more Ante-natal visits was minimum. It indicates the lack of proper health education among the pregnant mothers.

Table.6

District	ANC				
	Received		Number of AN visits		
	Yes	No	1-2 visits	3 visits	4 to 4+ visits
Pulwama (48)	48 (100.0)	0	7(14.65)	38 (79.1)	3(6.25)
Anantnag (48)	48 (100.0)	0	8 (16.75)	39(81.25)	1(2.0)

All the mothers got their antenatal care from SCs, PHCs, SDHs and SD hospitals. They got iron folic acid tablets from the sub-centres and had to visit either the PHCs or SDHs for

diagnostic tests and other necessary check-ups. Iron and folic acid tablets were received by all the delivered mothers during their last pregnancies. According to the respondents, they were provided by these supplements from time to time.

Antenatal cards were received by all the respondents.

All the delivered mothers received tetanus toxoid at least 2 times during their last pregnancy. TT vaccine is most beneficial for both mother and the newborn. Thus, among these respondents, chances of tetanus to the newborns were very much minimised.

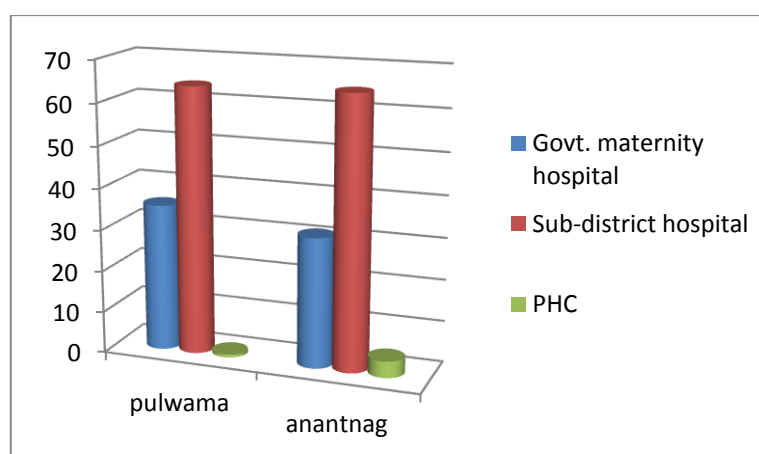
Delivery practices:

Place of delivery:

In district Pulwama, about 35.4% and 31.25% (table.7) in Anantnag of the delivered mothers had delivered in Govt. maternity hospitals. But the percentage of deliveries at CHCs was higher and was almost equal in both the districts. There were hardly any deliveries at PHC level.

Table.7

District	Place of delivery		
	Gov't Maternity Hospital	CHC/sub-district hospital	PHC
Pulwama (48)	17 (35.4)	30 (64.0)	1 (0.7)
Anantnag (48)	15 (31.25)	31 (64.7)	2 (4.0)



Mode and type of delivery:

About 68.75% and 75.0% (table.8) had normal deliveries in Pulwama and Anantnag respectively. Out of total 96 respondents, only 4 mothers had delivered preterm babies.

Table.8

District	Mode of delivery		Type of delivery		
	Normal	caesarean	Term	Preterm	Post-term
Pulwama (48)	33 (68.75)	15 (31.25)	46 (95.8)	2	0
Anantnag (48)	36 (75.0)	12 (25.0)	46 (95.8)	2	0

Preferred place of delivery:

All the delivered mothers preferred hospital deliveries as compared to home deliveries. Almost all the mothers in both the districts (97% in Pulwama and 99% in Anantnag) gave the reason of JSY benefits for the preference. They also said that there is availability of experts and better facilities in hospitals and hence there are more safe deliveries in public health facilities.

Type of delivery and providers of delivery care:

Nurses were the providers of delivery care for the mothers who had normal deliveries at all the health facilities. For the complicated deliveries and caesarean sections, concerned gynaecologists and obstetricians provided the delivery services. Paediatricians did hardly attend any complicated delivery.

UTILIZATION OF THE ESSENTIAL NEW BORN CARE SERVICES OF FBNC:

Resuscitation of the newborns:

According to the delivered mothers, the babies with a minor breathing problem were provided with the resuscitation services immediately without any delay. There was some delay in resuscitation of the babies with severe breathing problems like respiratory distress, asphyxia etc. The main reasons responsible were either the unavailability of skilled persons or unavailability of the required equipments at the health facility.

Bathing of the baby:

Timing of the first bath of the newborns is an important aspect of newborns health. Delay in the bath avoids the chances of hypothermia in newborns especially in the first week of life. The delivered mothers were assessed for the baby's first bath. In district Pulwama, about 43.75% (table.9) of the mothers had bathed their babies within 2-7 days while 45.8% had bathed after one week. About 39.6% of respondents in district Anantnag had bathed their newborns within 2-7 days and 50.0% had bathed after one week. So, in both the districts, most of the mothers didn't follow the delay in baby's first bath.

Table.9

District	Time of bathing the baby				
	Immediate	After 6 hours	Within 2-7 days	After one week	After the cord dried and separated
Pulwama (48)	0	3 (6.25)	21 (43.75)	22 (45.8)	2 (4.25)
Anantnag (48)	0	4 (8.3)	19 (39.6)	24 (50.0)	1 (2.15)

Skin to skin contact of the baby with the mother:

Prevention of heat loss is one of the major components of essential newborn care. To prevent heat loss, immediate skin to skin contact is the important component of essential newborn care achievements. When asked where the baby was placed after the birth and cord was cut, 95.83% of respondents from district Pulwama and 91.66% (table.10) of respondents from district reported of putting the baby on the chest of mother with skin to skin contact. This implies good thermal care practices are followed so as to prevent newborn from hypothermia.

Table.10

District	Where was baby kept after birth and cord was cut?	
	On mother's chest	elsewhere
Pulwama(48)	46 (95.83%)	2 (4.17%)
Anantnag(48)	44 (91.66%)	4 (8.44%)

Breast feeding practices:

Baby's first feed:

Among 48 respondents from district Pulwama, 95.8% (table.11) reported breast milk as first food and 4.2% of the delivered mothers gave other drinks like Kashmiri Qahwa to their newborns as their first food. In district Anantnag, breast milk was given by 93.75% of the delivered mothers and other drinks by 6.25% as their babies' first food. The main reasons for giving other drinks were either ill health of the baby or mother or the mother had no milk in the first few days. So, regarding baby's first feed, the delivered mothers followed better feeding practices.

Table.11

District	Baby's first feed	
	Breast milk as first food	Other drinks as 1st food
Pulwama (48)	46 (95.8)	2
Anantnag (48)	45 (93.75)	3

Time of initiation of breast feeding:

Initiation of breastfeeding early is also an essential component of newborn care. The mothers were asked about the time of initiation of breast feeding. About 62.5% of delivered women in Pulwama and about 64.58% women in Anantnag breastfed their babies within one hour.(table.12). 37.5% in Pulwama and 35.42% in Anantnag gave milk to their babies between 1-6 hours. The reasons that the respondents gave for delay in initiation of milk early were either caesarean section or the ill-health of the newborn.

Table.12

District	Time of initiation of breast feeding			
	Breastfeeding initiated within 1hour	Breastfeeding initiated between 1 – 6 hours	Breastfeeding initiated after 6 hours	Breastfeeding initiated after 2-3 days
Pulwama (24)	30 (62.5)	18 (37.5)	0	0

Anantnag (24)	31 (64.58)	17 (35.42)	0	0
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Anything else apart from breast milk in the first month:

95.8 % (table.13) of respondents from district Pulwama and 93.75% from district Anantnag gave only their milk to the newborns. Only a mere 4.2% of the mothers in district Pulwama and 6.25% respondents in district Anantnag gave other things like artificial milk products in the first month of childbirth. The main reason for giving these things was that the mother had not enough milk in the first month.

Table.13

District	Anything else given in first month apart from milk	
	Yes	No
Pulwama (48)	46 (95.8%)	2 (4.2%)
Anantnag (48)	45 (93.75%)	3 (6.25%)

Exclusive breastfeeding practices:

Breast feeding is ideally continued exclusively for the first 6 months of life. Weaning starts from six months onwards when the newborn can be supplemented with other foods. About 73.0% in Pulwama and 79.0 % (table.14) in Anantnag had breastfed their babies for 4-6 months. About 16.6 % and 14.58% in Pulwama and Anantnag had followed exclusive breastfeeding practice for 2-4 months. The main reasons that the respondents gave was the insufficient milk of the mother. Some mothers (10.4% in Anantnag and 6.24% in Pulwama) breastfed their babies for more than 6 months.

Table.14

District	Exclusive breastfeeding practices				
	birth to 1 month	1 – 2 month olds	2 – 4 month olds	4-6 month olds	6 months +

Pulwama (48)	0	0	8 (16.6)	35 (73.0)	5 (10.4)
Anantnag (48)	0	0	7 (14.58)	38 (79.0)	3 (6.42)

Knowledge on duration of exclusive breastfeeding:

The respondents were interviewed about the knowledge on the duration of exclusive breastfeeding. Most of the mothers (73%) (table.15) reported the duration upto 6 months in Pulwama and in Anantnag, about 60.4% of respondents reported for the same duration. Some mothers (27%) in Pulwama said that they would breastfeed their babies for more than 6 months or so. The knowledge on duration of breastfeeding among the interviewed mothers is shown in Table.15

Table.15

District	Knowledge on duration of exclusive breastfeeding					
	up to 3 months	up to 4 months	up to 5 months	up to 6 months	6 months +	Don't know
Pulwama (48)	0	0	0	35 (73. %)	13 (27%)	0
Anantnag (48)	0	0	0	29 (60.4%)	19 (39.6%)	0

Postnatal care:

During the course of the study, the delivered mothers were assessed for the quality of the postnatal care and the number of times their baby got checked for health before leaving the hospitals. In both the districts, almost all the respondents reported of the check-ups but the number of the check-ups varied from one respondent to another. Usually, the respondents who had normal deliveries at PHCs were kept there only for a few hours. So, there was hardly one check-up of the newborn at the time of leaving the health facility. At SDHs and DHs, the normal delivered patients were kept for 1-2 days. So they were checked very well in comparison to that of PHCs.

As the mothers with caesarean sections remained in the hospitals upto a week, they got relatively better check-ups.

When asked if any skilled persons of healthcare did come for the check-up of the baby to their homes especially among the mothers with normal deliveries, it was reported in both the districts that no healthcare professional visited for the same.

Immunization:

Regarding the immunization status, all the babies got their babies immunized on the due dates. All the babies had received all the vaccines due till the date of assessment. There were hardly any mothers who had forgotten to immunize their babies on due dates. According to them got their newly born babies immunized on a later date in case they missed any vaccine. Therefore, it was reported in both the districts that the immunization is functionally very much active.

According to the respondents who delivered at PHCs or SDHs, the newborns got their zero dose vaccines (like hepatitis B, OPV, BCG) at these health facilities on some specific days in a week. The reason they gave was that they could not open and use these vaccine vials daily as the vaccine may get spoiled. So the healthcare providers waited for these days to come and thus immunize the newborns in large groups e.g. this way of immunizing the newborns was seen in SDH Tral on the days of Wednesday and Saturday

Awareness about child immunization:

Need and Benefits: all the respondents in both the districts reported the need for vaccination as an important issue. The reason they gave was that immunization prevents from diseases, so they consider it an important component of newborn's healthy well-being.

UTILIZATION OF THE SICK NEW BORN CARE SERVICES OF FBNC:

Thermal care of sick newborns:

Among 24 respondents from district Pulwama, 75.59% reported of proper thermal care to their hypothermic newborns. Radiant heaters were available for heating arrangements. 24.31% of the respondents reported of improper thermal care. The main reason was the either unavailability of any heating arrangement or non-functional heaters.

In district Anantnag, among 24 delivered mothers, 73.57% reported of proper and sufficient thermal care to the newborns. 26.43% respondents reported insufficient thermal care facility

which was due to the same unavailability or non-functional radiant heaters at the healthcare facilities as that in district Pulwama.

Breast feeding support services to the sick and preterm babies:

According to the respondents from both the districts, breast feeding support was provided to the sick and preterm babies. Breast milk expression with assisted breast feeding was done.

Treatment measures for the sick newborns:

The respondents of the sick newborns were interviewed about the treatment measures followed for their babies. About 41.66% (table.16) in Pulwama and 54.16% in Anantnag reported that their babies were treated in the same health facility where the babies were born. About 58.44% and 45.86% in Pulwama and in Anantnag respectively reported their babies were referred to the higher health centres for the proper treatment. This higher percentage of referrals indicates that the services of the centres where the mothers had delivered were not good enough.

Table.16

District	Treatment measures		
	Treated in the same health facility	Referred to the higher health facility	Nothing done
Pulwama (24)	10 (41.66)	14 (58.44)	0
Anantnag (24)	13 (54.16)	11 (45.86)	0

The respondents were interviewed as if they had encountered any difficulty while getting medical treatment of their newborns, 16.4% (table.17) of respondents from Pulwama and 29.8% from Anantnag reported of the problems encountered while the treatment of their sick newborns while 83.3% in Pulwama and 70.8% in Anantnag had no difficulty in getting the medical treatment.

The reasons they gave was either the negligence on part of the healthcare providers or the lack of proper physical infrastructure and manpower. Some reported of lack of essential drugs at the health facilities.

Table.17

District	Problems encountered while treatment of sick newborns	
	Yes	No
Pulwama (24)	4 (16.7)	20 (83.3)
Anantnag (24)	7 (29.8)	17 (70.8)

Opinion regarding the quality of the services provided during neonatal period:

The respondents from both the districts were at last interviewed for their overall experience over the quality of services. About 64.58 % (table.18) in Pulwama and 58.33% in Anantnag of the total respondents reported of satisfactory services of the newborn care at the health facilities. There were a significant percentage of the respondents who reported of some good and some unsatisfactory services. About 35.42 % in Pulwama and 41.67% in Anantnag realised this problem. So according to the report, the effective newborn care services are not reaching to the common man.

Table.18

Districts	Quality of services		
	Services good enough/satisfactory	Some services good & some bad	Worst services
Pulwama (48)	31 (64.58)	17 (35.42)	0
Anantnag (48)	28 (58.33)	20 (41.67)	0

SERVICE PROVIDERS

During the course of the study, the service provider's perspective was taken into account. The study included 7 concerned staff members (3 paediatricians and 4 staff nurses) from SNCU, 8 persons (4 paediatricians and 4 staff nurses) from NBSUs and 32 persons (8 paediatricians, 8 medical officers and 16 nurses) from NBCCs. The concerned staff was taken from 1 SNCU, 4 NBSUs and 16 NBCCs. At most of these newborn care centres, human resources were not

enough in these newborn care facilities. Therefore, the available medical and paramedical at the health facility which were providing the services of these newborn units were the respondents of the study, thus both specific staff as well as the general staff available at the health facilities were interviewed.

Awareness regarding the Facility Based Newborn Care (FBNC) scheme:

The concerned medical and Para-medical staff of all the newborn care units was assessed for the awareness regarding FBNC. Among 32 respondents from all 16 NBCCs, only 6.2 % (table.19) were aware of this scheme and those too were the concerned paediatricians and were not having full knowledge about FBNC. 12.5% of respondents from NBSUs and 14.3% from SNCU knew about this scheme. Among all the concerned staff from all newborn care facilities, only a mere 8.5% of the respondents which were the paediatricians had more or less information of this scheme. Hence, there was a large knowledge gap among the concerned staff of all these facilities regarding facility based new born care programme.

Table.19

Type of newborn care facility	Respondents	Awareness regarding FBNC	
		Yes	No
NBCCs	All concerned staff (32)	2 (6.2 %)	30 (93.8%)
	Paediatricians (8)	2	6
	Medical officers (8)	0	8
	Staff nurses (16)	0	16
NBSUs	All concerned staff (8)	1(12.5%)	7(87.5%)
	Paediatricians(4)	1	3
	Staff nurses (4)	0	4
SNCU	All concerned staff(7)	1(14.3%)	6(85.7%)
	Paediatricians(3)	1	2
	Staff nurses(4)	0	4
Overall awareness	All concerned staff(47)	4(8.5%)	43(91.5%)
	Paediatricians(15)	4(26.6%)	11(73.4%)
	Medical officers(8)	0	8(100%)
	Staff nurses(24)	0	24(100%)

Training programmes received or not:

Proper training programmes were not being given to the concerned medical and paramedical staff. Only 9.4% (table.20) of respondents from all NBCCs were given training under NSSK.

No training programmes were given under F-IMNCI and FBNC observership to the concerned staff of NBSUs and SNCU respectively.

Table.20

Type of newborn care facility	Training programme	Respondents	Training programme received	
			Yes	No
NBCCs	NSSK	All concerned staff (32)	3 (9.4 %)	29 (90.6%)
		Paediatricians (8)	2	6
		Medical officers (8)	0	8
		Nurses (16)	1	15
NBSUs	F-IMNCI	All concerned staff (8)	0	8(100%)
		Paediatricians(4)	0	4
		Staff nurses (4)	0	4
SNCU	FBNC observership	All concerned staff(7)	1 (NSSK)	6
		Paediatricians(3)	1	2
		Staff nurses(4)	0	4
Overall responses		All concerned staff(47)	4(8.5%)	43(91.5%)
		Paediatricians(15)	3(20%)	12(80%)
		Medical officers(8)	0	8(100%)
		Staff nurses(24)	1(4.1%)	23(95.9%)

Responses on the availability of proper referral system:

The concerned staff from all newborn care facilities was asked for the availability of proper referral system. All the respondents (table.21) reported good and prompt referral system at all the health facilities.

Table.21

Respondents	Yes	No
All concerned staff NBCCs(32)	32 (100 %)	0
All concerned staff NBSUs(8)	8(100%)	0
All concerned staff SNCU(7)	7(100%)	0

Responses regarding the overall services provided at the facility:

All the concerned staff from all newborn care facilities reported of some satisfactory and some unsatisfactory services provided at the health facilities (table.22). The reasons were the unavailability of proper physical infrastructure and manpower at the health facilities.

Table.22

Respondents	All services satisfactory	Some services satisfactory & some unsatisfactory	All services unsatisfactory	Can't say
All concerned staff NBCCs (32)	0	32(100 %)	0	0
All concerned staff NBSUs(8)	0	8(100%)	0	0
All concerned staff SNCU(7)	0	7(100%)	0	0

Reasons for not providing effective newborn care services:

When asked about the reasons for not providing effective newborn care services, all the respondents reported of inadequate manpower and infrastructure at the health facilities. (table.23)

Table.23

Respondents	Inadequate manpower	Inadequate infrastructure	Both inadequate manpower & infrastructure	Services provided effectively
All concerned staff NBCCs(32)	0	0	32 (100 %)	0
All concerned staff NBSUs(8)	0	0	8(100%)	0
All concerned staff SNCU(7)	0	0	7(100%)	0

Perception regarding increase in services during birth and early days of life due to provision of facility based new born care facilities:

The health care service providers at the newborn care facilities were asked for the increase in services during childbirth and early infancy. 71.9% of respondents (table.24) from NBCCs reported of somewhat increase in these services due to the provision of FBNC. Rest 28.1% reported of not having any knowledge.

Table.24

Type of newborn care facility	Respondents	Increase in services due to provision of FBNC			
		Yes,increased the services very much	Yes increased the services somewhat	No,seivces not increased at all	Don't know
NBCCs	All concerned staff (32)	0	23(71.9%)	0	9(28.1%)
	Paediatricians (8)	0	8	0	0
	Medical officers (8)	0	8	0	0
	Nurses (16)	0	7	0	9
NBSUs	All concerned staff(8)	0	7(87.5%)	0	1(12.5%)
	Paediatricians(4)	0	4	0	0
	Staff nurses (4)	0	3	0	1
SNCU	All concerned staff(7)	0	6(85.8%)	0	1(14.2%)
	Paediatricians(3)	0	3	0	0
	Staff nurses(4)	0	3	0	1
Overall responses	All concerned staff(47)	0	36(76.6%)	0	11(23.4%)
	Paediatricians(15)	0	15(100%)	0	0
	Medical officers(8)	0	8(100%)	0	0
	Staff nurses(24)	0	13(54.2%)	0	11(45.8%)

Perception regarding reduction in neonatal mortality due to FBNC services:

An assessment was also done about the perception of reduction in neonatal mortality due to the provision of FBNC services at various health facilities. About 58.4 %(table.25) of all the concerned staff reported of somewhat reduction in neonatal mortality. The remaining 41.6% of the respondents had no idea about it. The main reason seemed to be the unawareness among the concerned staff about the updated and revised national and state health indicators.

Table.25

Type of newborn care facility	Respondents	Reduction in neonatal mortality due to provision of FBNC services			
		Yes, reduced very much	Yes,reduced somewhat	No,not reduced at all	Don't know
NBCCs	All concerned staff(32)	0	25(78.1%)	0	7(21.9%)
	Paediatricians(8)	0	8	0	0
	Medical officers (8)	0	8	0	0

	Nurses(16)	0	9	0	7
NBSUs	All concerned staff(8)	0	6(75%)	0	2(25%)
	Paediatricians(4)	0	4	0	0
	Staff nurses (4)	0	2	0	2
SNCU	All concerned staff(7)	0	6(85.8%)	0	1(14.2%)
	Paediatricians(3)	0	3	0	0
	Staff nurses(4)	0	3	0	1
Overall responses	All concerned staff(47)	0	37(78.7%)	0	10(21.3%)
	Paediatricians(15)	0	15(100%)	0	0
	Medical officers(8)	0	8(100%)	0	0
	Staff nurses(24)	0	14(58.4%)	0	10(41.6%)

Perception regarding delivery practices followed by pregnant mothers:

According to all the 47 respondents only hospital based delivery practices were followed by the pregnant mothers (table.26). The main responsible reasons were the free cashless deliveries and other privileges under the schemes of JSY and JSSK.

Table.26

Respondents	Delivery practices			
	Home	Hospital	Dia	Complicated referred to hospital
All concerned staff NBCCs	0	32(100%)	0	0
All concerned staff NBSUs	0	8(100%)	0	0
All concerned staff SNCU	0	7(100%)	0	0

Perception regarding exclusive breast-feeding among delivered mothers:

The respondents were assessed for the perception regarding non-practice of exclusive breastfeeding among the delivered mothers. They reported different reasons for it. About 78.7% of the total of 47 respondents (table.27) reported of mother's milk being not enough as the main cause for this malpractice. But they said that the delivered mothers with this kind of problem give recommended artificial milk supplements to the newborns during the first 6 months of life. Second most important reason was the busy schedule of working mothers.

About 17% of respondents reported for this cause. Traditions were being followed on very minor basis and only 4.3% of respondents reported it.

Table.27

Type of newborn care facility	Respondents	Mother's milk not enough	Mother busy with work	Tradition
NBCCs	All concerned staff (32)	25(78%)	5(15.6%)	2(6.2%)
	Paediatricians (8)	8	0	0
	Medical officers (8)	8	0	0
	Nurses (16)	9	5	2
NBSUs	All concerned staff(8)	6(75%)	2(25%)	0
	Paediatricians(4)	4	0	0
	Staff nurses (4)	2	2	0
SNCU	All concerned staff(7)	6(85.7%)	1(14.3%)	0
	Paediatricians(3)	3(100%)	0	0
	Staff nurses(4)	3(75%)	1(25%)	0
Overall responses	All concerned staff(47)	37(78.7%)	8(17%)	2(4.3%)
	Paediatricians(15)	15	0	0
	Medical officers(8)	8	0	0
	Staff nurses(24)	14	8	2

Problems faced while providing new born care services:

Majority of the concerned staff (about 32%) of these facilities reported of out of reach newborn care services to the population in peripheral areas as the major problem faced while providing these services (table.28). There were minor responses regarding customs and beliefs followed and the dependence on family members for availing these new born care services by the people. About 17% of the respondents reported of improper contact of the people to the health facilities for accessing and availing the newborn care services.

Table.28

Type of newborn care facility	Respondents	Reasons for not practicing exclusive breast feeding				
		Couldn't contact	Dependence on family members for services	Due to customs /beliefs	Services are out of reach	No problem faced
NBCCs	All concerned staff (32)	6(18.8%)	2(6.2%)	2(6.2%)	9(28.1%)	13(40.6%)
	Paediatricians(8)	1	0	0	4	3

	Medical officers (8)	3	0	0	5	0
	Nurses (16)	2	2	2	0	10
NBSUs	All concerned staff(8)	1(12.5%)	1(12.5%)	1(12.5%)	3(37.5%)	2(25%)
	Paediatricians(4)	1	0	0	3	0
	Staff nurses (4)	0	1	1	0	2
SNCU	All concerned staff(7)	1(14.3%)	1(14.3%)	1(14.3%)	4(57.1%)	0
	Paediatricians(3)	1	0	0	2	0
	Staff nurses(4)	0	1	1	2	0
Overall response s	All concerned staff(47)	8(17%)	4(8.5%)	4(8.5%)	16(34%)	15(32%)
	Paediatricians(15)	3	0	0	9	3
	Medical officers(8)	3	0	0	5	0
	Staff nurses(24)	2	4	4	2	12

Reasons of people not availing newborn care facilities at health centres:

When asked as why some people do not avail new born care facilities at the health facilities, 44.7% (table.29) of the total of 47 respondents reported of traditions being the main reason. They said people especially in the peripheral areas of the health facilities still follow some traditions and customs regarding childbirth. Rest 55.3% of the respondents reported that people are nowadays aware of these facilities and therefore avail these newborn care health facilities.

Table.29

Type of newborn care facility	Respondents	Reasons for not availing newborn care practices	
		Traditions & customs	Now everyone goes to hospital
NBCCs	All concerned staff (32)	15(46.9%)	17(53.1%)
	Paediatricians (8)	5	3
	Medical officers (8)	7	1
	Nurses (16)	3	13
NBSUs	All concerned staff(8)	4(50%)	4(50%)
	Paediatricians(4)	3	1
	Staff nurses (4)	1	3
SNCU	All concerned staff(7)	2(28.5%)	5(71.5%)
	Paediatricians(3)	1	2
	Staff nurses(4)	1	3
Overall	All concerned staff(47)	21(44.7%)	26(55.3%)

responses	Paediatricians(15)	9(60%)	6(40%)
	Medical officers(8)	7(87.5%)	1(12.5%)
	Staff nurses(24)	5(20.8%)	19(79.2%)

Reasons for non-compliance of vaccination in infants:

Forgetfulness on the part of mother or family was the main reason for non-compliance of vaccination in infants. About 42.8% (table 30) of all concerned staff from all the newborn care facilities reported of this reason among which paediatricians were the main respondents. Rest of the respondents (72.2%) reported that everyone is nowadays aware of the vaccination in infants.

Table.30

Type of newborn care facility	Respondents	Reasons for non-compliance of vaccination	
		Forgetfulness on part of family/mother	Now everyone is aware
NBCCs	All concerned staff (32)	8(25%)	24(75%)
	Paediatricians (8)	4	4
	Medical officers (8)	3	5
	Nurses (16)	1	15
NBSUs	All concerned staff(8)	3(37.5%)	5(62.5%)
	Paediatricians(4)	3	1
	Staff nurses (4)	0	4
SNCU	All concerned staff(7)	3(42.8%)	4(57.2%)
	Paediatricians(3)	2	1
	Staff nurses(4)	1	3
Overall responses	All concerned staff(47)	14(29.7%)	33(70.3%)
	Paediatricians(15)	9(60%)	6
	Medical officers(8)	3	5
	Staff nurses(24)	2	22

Perception regarding barriers in low utilization of facility based newborn care services by people:

The concerned staff of these newborn care facilities was asked about the barriers in low utilization of the newborn care services by the people at the health facilities. 68% (table.31) of the total respondents from all these facilities reported of lack of awareness as the major barrier. Hesitation played a minor role in the utilization of these services. 29.8% of the respondents reported of people using the facility based newborn care services.

Table.31

Type of newborn care facility	Respondents	Barriers in low utilization of FBNC services		
		Lack of awareness	Hesitation	Now everyone utilizes these services
NBCCs	All concerned staff (32)	22(68.8%)	1(3.1%)	9(28.1%)
	Paediatricians (8)	7	0	1
	Medical officers (8)	8	0	0
	Nurses (16)	7	1	8
NBSUs	All concerned staff(8)	5(62.5%)	0	3(37.5%)
	Paediatricians(4)	4	0	0
	Staff nurses (4)	1	0	3
SNCU	All concerned staff(7)	5(71.4%)		2(28.6%)
	Paediatricians(3)	3	0	0
	Staff nurses(4)	2	0	2
Overall responses	All concerned staff(47)	32(68%)	1(2.2%)	14(29.8%)
	Paediatricians(15)	14	0	1
	Medical officers(8)	8	0	0
	Staff nurses(24)	10	1	13

Major Challenges you face in relation to the provision of access of FBNC services by the people:

According to 68% (table.32) of service providers from all newborn care facilities, lack of general education and the education regarding FBNC services among the people was the major challenge faced during the provision of access of FBNC services by the people. A mere of 6.5% of healthcare service providers reported of lack of transport and time as the challenge faced. 25.5% the respondents reported of no problem or challenge faced during the provision of access of these FBNC services by the people.

Table.32

Type of newborn care facility	Respondents	Challenges faced		
		Lack of education facility	Lack of transport and time	No problem faced
NBCCs	All concerned staff (32)	23(71.9%)	1(3.1%)	8(25%)
	Paediatricians (8)	8	0	0
	Medical officers (8)	8	0	0
	Nurses (16)	7	1	8
NBSUs	All concerned staff(8)	4(50%)	1(12.5%)	3(37.5%)
	Paediatricians(4)	4	0	0
	Staff nurses (4)	0	1	3
SNCU	All concerned staff(7)	5(71.4%)	1(14.3%)	1(14.3%)
	Paediatricians(3)	3	0	0
	Staff nurses(4)	2	1	1
Overall responses	All concerned staff(47)	32(68%)	3(6.5%)	12(25.5%)
	Paediatricians(15)	15	0	0
	Medical officers(8)	8	0	0
	Staff nurses(24)	9	3	12

Advocated media options for Behavioural Change Communication (BCC) or Information, Education and Communication (IEC) regarding newborn care services and practices:

53% (table.33) of the concerned staff from all newborn care facilities reported of camps as the best advocating media option for providing information, educating and communicating with the people regarding newborn care services and practices. Camps can provide much participation of the people and hence can help in the proper dissemination of the services under FBNC. Usage of mass media including radio, T.V. etc. was the second most important media option (23.7%) as per the responses from the respondents (table 15.)

Table.33

Type of newborn care facility	Respondents	Advocated media options			
		Religious leaders	Women group	Camps	Mass media
NBCCs	All concerned staff (32)	5(15.6%)	3(9.4%)	17(53.1%)	7(21.9%)
	Paediatricians (8)	2	2	4	0
	Medical officers (8)	3	0	5	0

	Nurses (16)	0	1	8	7
NBSUs	All concerned staff(8)	0	2(25%)	4(50%)	2(25%)
	Paediatricians(4)	0	2	2	0
	Staff nurses (4)	0	0	2	2
SNCU	All concerned staff(7)	1(14.2%)	0	4(57.2%)	2(28.6%)
	Paediatricians(3)	1	0	2	0
	Staff nurses(4)	0	0	2	2
Overall responses	All concerned staff(47)	6(12.7%)	5(10.6%)	25(53%)	11(23.7%)
	Paediatricians(15)	3	4	8	0
	Medical officers(8)	3	0	5	0
	Staff nurses(24)	0	1	12	11

HEALTH FACILITY ASSESSMENT FOR PREPAREDNESS & IMPLEMENTATION OF THE SERVICES OF FBNC:

Physical infrastructure:

Hospital beds:

The health facilities were assessed for the total inpatient beds, postnatal beds and the beds dedicated to newborn care. The data collected is given in table.34. In almost all the PHCs, there was not any separate room for postnatal ward. The maternity bed if available was kept in the labor room just a few feet away from the delivery table. Therefore, there were more chances of getting infection for both mother as well as the newborn. Though there were beds for the new born babies, but at most of the PHCs were not functional.

Table.34

District	Health facility	Total inpatient beds	Beds in maternity/postnatal ward	Beds for newborns
Pulwama	DH Pulwama	N/A	N/A	N/A
	SDH Pampore	22	4	2
	SDH Tral	22	5	3
	PHC Awantipora	4	1 bed in LR	2
	PHC Kakapora	4	1	2
	PHC Dadsara	7	1 bed in LR	2

	PHC Aripal	4	0	0
Anantnag	MCCH Anantnag	110	84	26
	SDH Bijbehara	30	8	2
	SDH Seer	24	4	2
	PHC Mattan	15	2	2
	PHC Ashmuqam	7	1 bed in LR	1
	PHC Marhama	4	0	1
	PHC B-kalan	4	1 bed in LR	1

Labor rooms:

Labour rooms were available and functional at all the district and sub-district hospitals. Among all PHCs, 1 PHC located in Aripal had not the available or functional labor room. This was because of the lack of infrastructure. There was not proper separate labor room there and the delivery table was located in general consultation room. According to the service providers of this health facility, construction of a separate labor room is under process. Deliveries at the PHC Aripal were, therefore conducted in the general consultation room.



Regarding the cleanliness and maintenance of these labor rooms, there were no proper arrangements. The attendants of the delivered mothers used to enter the labor rooms with their soiled foot wears on. The location of delivery and neonatal equipments at the various health facilities is given in the table.35 below:

Table.35

District	Health facility	General consultation room	Labor room	OT	Both labor room & OT	labor room,OT & Others	Other(specify)
Pulwama	DH Pulwama				✓		
	SDH Pampore				✓	✓	NBSU
	SDH Tral				✓		

	PHC Awantipora		✓				
	PHC Kakapora		✓				
	PHC Dadsara		✓				
	PHC Aripal	✓					
Anantnag	MCCH Anantnag					✓	NBSU
	SDH Bijbehara					✓	NBSU
	SDH Seer		✓				
	PHC Mattan		✓				
	PHC Ashmuqam		✓				
	PHC Marhama		✓				
	PHC B-kalan		✓				

Electricity:

Regular electric supply was available at all health facilities except PHC Mattan. The lighting was proper in the labor rooms and newborn care corners except PHC Mattan in district Anantnag and PHC Aripal in district Pulwama. This was due to the frequent power-cuts in PHC Mattan and the separate labor room in PHC Aripal. Though PHC Mattan had a functional stand-by generator, but it was used only during emergency situations at the PHC. All the other health facilities had functional stand-by generator for electricity except at PHC Dadsara where generator was available but not functional due to the unavailability of fuel.

Table.36

District	Health facility	Electric supply			Proper lighting in labor room and newborn care corner		Stand-by generator for electricity		
		Yes	Irregular electric supply	No supply	Yes	No	Yes, functioning with fuel	Yes, but not functioning or no fuel	No
Pulwama	DH Pulwama	✓			✓		✓		
	SDH Pampore	✓			✓		✓		
	SDH Tral	✓			✓		✓		
	PHC Awantipora	✓			✓		✓		
	PHC	✓			✓		✓		

	Kakapora								
	PHC Dadsara	✓			✓		x	✓	
	PHC Aripal	✓			x	✓	✓		
Anantnag	MCCH Anantnag	✓			✓		✓		
	SDH Bijbehara	✓			✓		✓		
	SDH Seer	✓			✓		✓		
	PHC Mattan	x	✓		x	✓	✓		
	PHC Ashmuqam	✓			✓		✓		
	PHC Marhama	✓			✓		✓		
	PHC B-kalan	✓			✓		✓		

Water supply:

There was a proper water supply arrangement at almost all the health facilities. All the health facilities had safe water source with sufficient hand washing. At all the health facility, the outlet for this water was within 500 metres of the health facility. Running water was available in the health facilities at the time of visit to these facilities.

24-hour coverage for delivery and new born care services:

All the health facilities provided 24-hour coverage for the delivery and newborn care services except PHC Aripal in district Pulwama and PHC Mattan in district Anantnag.

Table.37

District	Health facility	both delivery & new born care services	Only delivery services	Only new born care services	None
Pulwama	DH Pulwama	✓			
	SDH Pampore	✓			
	SDH Tral	✓			
	PHC Awantipora	✓			
	PHC Kakapora	✓			
	PHC Dadsara	✓			
	PHC Aripal	x	✓		
Anantnag	MCCH Anantnag	✓			
	SDH Bijbehara	✓			

	SDH Seer	✓			
	PHC Mattan	✓	✓		
	PHC Ashmuqam	x			
	PHC Marhama	✓			
	PHC B-kalan	✓			

Delivery services provided at the facilities:

All the health facilities provided services for normal deliveries (table.38).At most of the PHCs, assisted deliveries (forcep/vacuum) were not performed. Manual removal of placenta was done at all health facilities except PHC Awantipora and PHC Kakapora. As the services for caesarean sections should be available at all SDHs as per Indian Public Health Standards (IPHS) for CHCs, the SDH Seer lacked these services. The main reason was the unavailability of desired physical infrastructure. A Staff nurse posted in labor room said, caesarean section is going to be functional from the next week. Deliveries services are not available as such at this time but the concerned gynaecologist has dated a caesarean section in next week.”

Table.38

District	Health facility	Type of deliveries conducted			
		Normal	Assisted (forcep/ vacuum)	Manual removal of placenta	Caesarean sections
Pulwama	DH Pulwama	✓	✓	✓	✓
	SDH Pampore	✓	✓	✓	✓
	SDH Tral	✓	✓	✓	✓
	PHC Awantipora	✓	x	x	x
	PHC Kakapora	✓	x	x	x
	PHC Dadsara	✓	x	✓	x
	PHC Aripal	✓	x	✓	x
Anantnag	MCCH Anantnag	✓	✓	✓	✓
	SDH Bijbehara	✓	x	✓	✓
	SDH Seer	✓	✓	✓	x
	PHC Mattan	✓	✓	✓	x
	PHC Ashmuqam	✓	x	✓	x
	PHC Marhama	✓	x	✓	x
	PHC B-kalan	✓	x	✓	x

Essential new-born care services:

Essential newborn care services were not fully provided by all the health facilities. In district Pulwama, satisfactory resuscitation and breast feeding services were not provided by PHC Aripal. The main reason was the unavailability of a separate labor room and the required

equipments. In district Anantnag, PHC Ashmuqam lacked the proper resuscitation services due to the unavailability of necessary equipments. In PHC Mattan, though the heaters were available in labor room and newborn care corner, sufficient thermal care services were not provided due to the irregular electric supply.

Table.39

District	Health facility	Resuscitation	Thermal care	Breast feeding support services
Pulwama	DH Pulwama	✓	✓	✓
	SDH Pampore	✓	✓	✓
	SDH Tral	✓	✓	✓
	PHC Awantipora	✓	✓	✓
	PHC Kakapora	✓	✓	✓
	PHC Dadsara	✓	✓	✓
	PHC Aripal	x	✓	x
Anantnag	MCCH Anantnag	✓	✓	✓
	SDH Bijbehara	✓	✓	✓
	SDH Seer	✓	✓	✓
	PHC Mattan	✓	x	✓
	PHC Ashmuqam	x	✓	✓
	PHC Marhama	✓	✓	✓
	PHC B-kalan	✓	✓	✓

Provision of referrals:

Prompt referral services were provided by all the health facilities. G.B.Panth Hospital Srinagar was the main referral hospital for the newly sick newborns and Lal Ded Hospital for the referred pregnant mothers in both the districts. MCCH Anantnag was also the referral hospital from SDH Seer and PHCs of Mattan and Ashmuqam. There was proper availability of functional ambulance for the referrals at all the health facilities.

Availability of functional ambulance or other vehicle on-site for referrals:

Table.40

District	Health facility	Yes available, functioning with fuel	Yes, not functioning or no fuel	Not available
Pulwama	DH Pulwama	✓		
	SDH Pampore	✓		
	SDH Tral	✓		
	PHC Awantipora	✓		
	PHC Kakapora	✓		

Anantnag	PHC Dadsara	✓		
	PHC Aripal	✓		
	MCCH Anantnag	✓		
	SDH Bijbehara	✓		
	SDH Seer	✓		
	PHC Mattan	✓		
	PHC Ashmuqam	✓		
	PHC Marhama	✓		
	PHC B-kalan	✓		

Availability of skilled persons for conducting deliveries:

There were skilled persons present at the health facilities to provide delivery care and the schedule was observed for them. Though the overall medical staff was not enough at all the health facilities, arrangements were being done to have a 24x7 available persons for conducting deliveries.

Other services:

During the course of the study, health facilities were also assessed for ANC services, postpartum care services, immunization services, family planning services, safe abortion services, treatment of RTI/STI, essential laboratory services and blood transfusion services. All health facilities were able to provide ANC services, postpartum care services, immunization services, treatment of RTI/STI and essential laboratory services.

Table.41

Districts	Health facility	ANC services	Postpartum care services	Immunization services	Family planning services	Safe abortion services	Treatment of RTI/STI	Essential laboratory services	Blood transfusion services
Pulwama	DH Pulwama	✓	✓	✓	✓	✓	✓	✓	✓
	SDH Pampore	✓	✓	✓	✓	✓	✓	✓	
	SDH Tral	✓	✓	✓	✓	✓	✓	✓	✓
	PHC Awantipora	✓	✓	✓	✓	✓	✓	✓	X
	PHC Kakapora	✓	✓	✓	X	X	✓	✓	X
	PHC Dadsara	✓	✓	✓	✓	✓	✓	✓	X
	PHC Aripal	✓	✓	✓	✓	X	✓	✓	X
Anantnag	MCCH Anantnag	✓	✓	✓	✓	X	✓	✓	✓
	SDH Bijbehara	✓	✓	✓	✓	✓	✓	✓	✓
	SDH Seer	✓	✓	✓	✓	✓	✓	✓	X

	PHC Mattan	✓	✓	✓	✓	✓	✓	✓	X
	PHC Ashmuqam	✓	✓	✓	✓	✓	✓	✓	X
	PHC Marhama	✓	✓	✓	✓	✓	✓	✓	X
	PHC B-kalan	✓	✓	✓	✓	X	✓	✓	X

Assessment for physical infrastructure, manpower and equipment and supplies for all the newborn care units:

Physical infrastructure:

Proper physical infrastructure for these newborn units was not available at all the health facilities visited. Firstly, at district hospital Pulwama, there was no special newborn care unit (SNCU). This was the main concern regarding improper care of both normal newborns and especially sick newborn babies. So, the care which should have been provided at the district level health facility was lacking. The medical superintendent of DH Pulwama when asked for the non-availability of special newborn care services said “the construction of SNCU here is under process. NRHM J&K has granted us some money and we hope this SNCU will be functional in the very near future”.

In district Anantnag, SNCU has been established in the recent times. According to the MS MCCH Anantnag, this SNCU is able to cater the newborn care services and has thus increased the services during birth and early days of life.



Though the stabilization units were not fully structured in any of the SDHs, yet SDH Pampore had some better facilities as compared with the NBSUs of other 3 sub-district hospitals. There was a separate room for providing thermal care, resuscitation services and phototherapy to the sick newborns.

Regarding NBCCs, these were though providing essential newborn care services at most of the health facilities, at PHC level, they were lacking proper infrastructure. In PHCs of Aripal, as there was no separate labor room available and the deliveries being conducted in the general consultation room, proper space was not hence available there for the proper functioning of the NBCC.

Manpower:

Satisfactory human resources recommended for these newborn care units were available at any of the health facility. The as such functional SNCU in Anantnag had a paediatrician and 6 staff nurses available (table.42). There were no medical officers posted in the SNCU.

Table.42

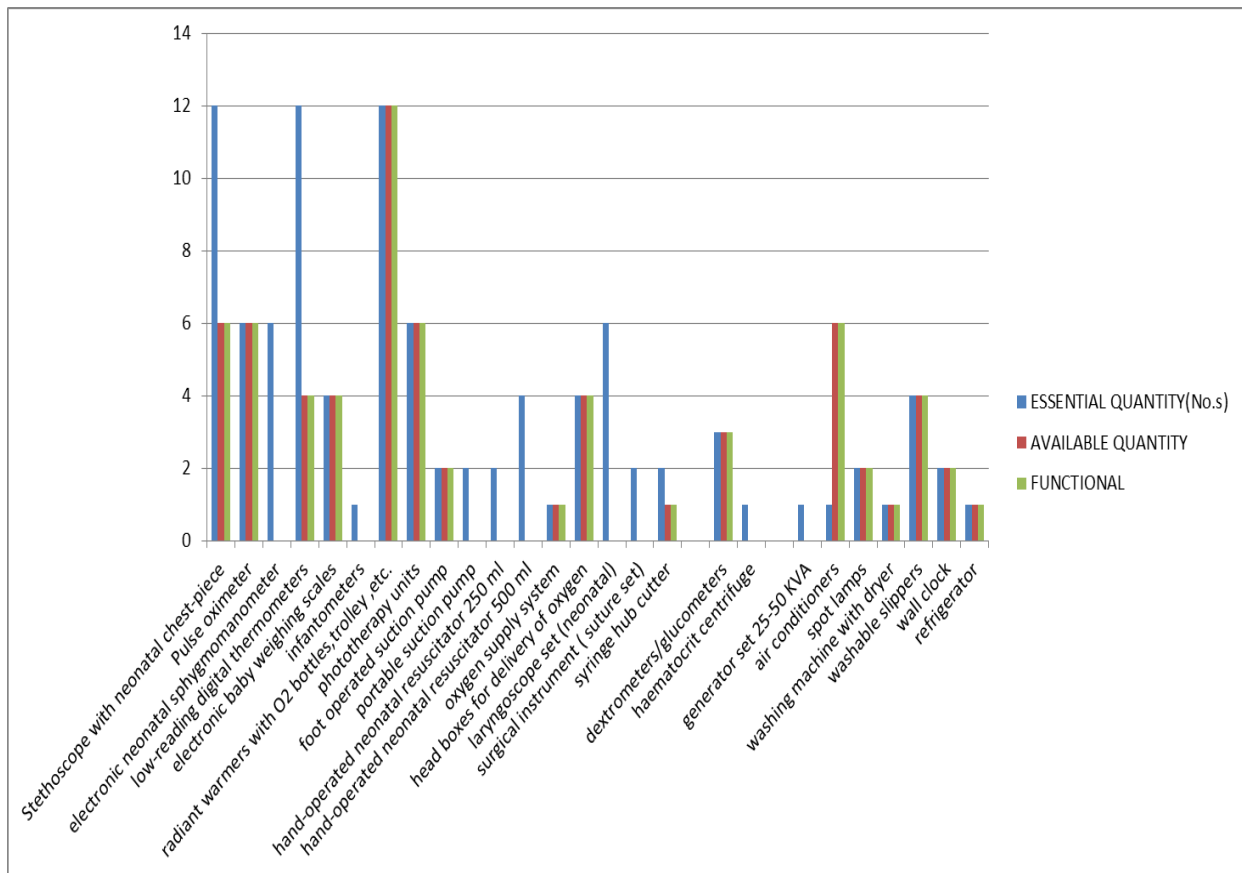
SNCU Anantnag	Recommended staff	Available staff
	1 Paediatrician trained in neonatology	available
	12 staff nurses	6 staff nurses
	2-3 medical officers	Not available

At NBSUs and NBCCs, there was almost as such no separate concerned staff available. The services were provided by the already present medical and paramedical staff at the health facilities.

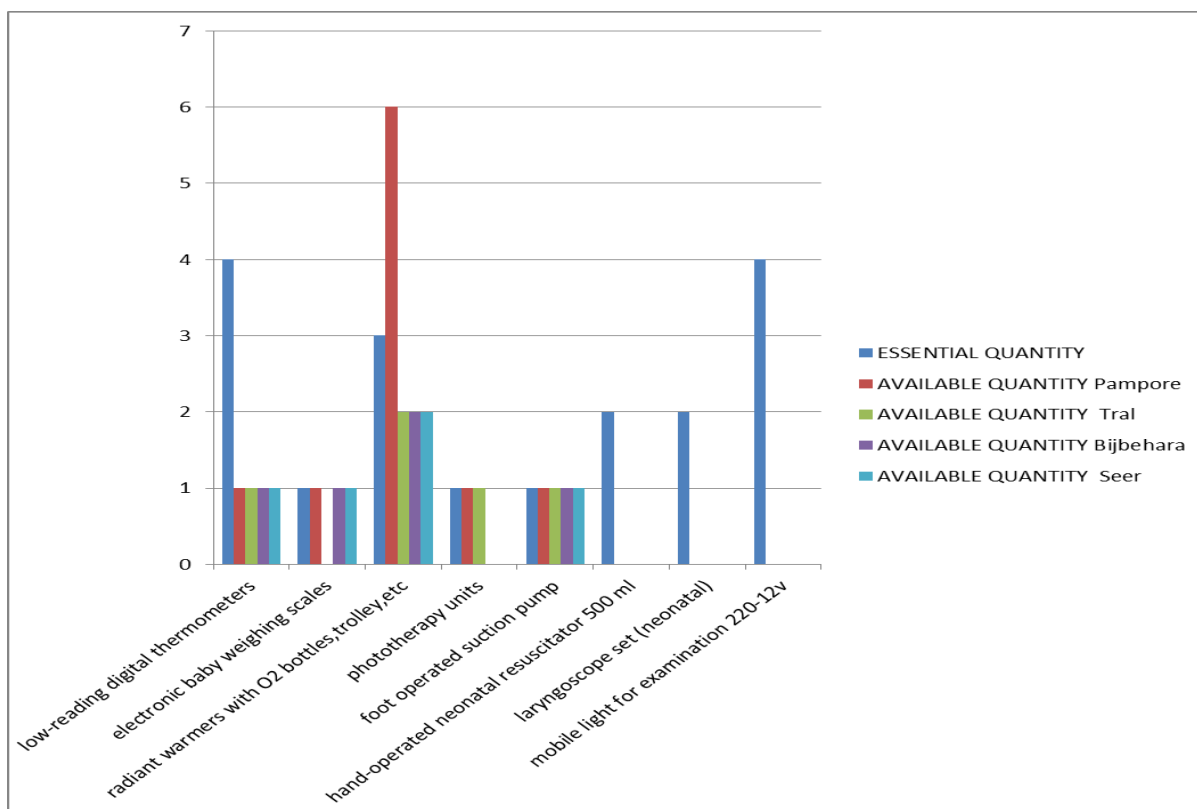
Equipment and supplies:

During the course of the study, the health facilities were assessed for the equipments and supplies at the respective newborn care facilities and also the general equipments available at the facilities.

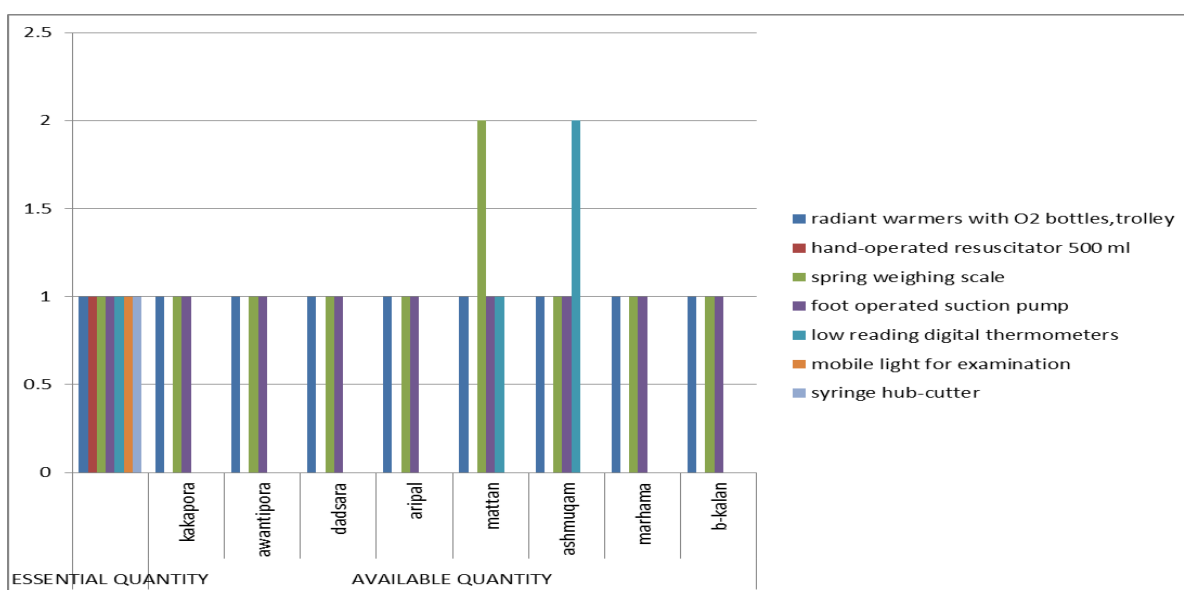
The graph given below indicates the availability and functionality of essential newborn care equipments at SNCU Anantnag. As is evident in the graph, there are only a few equipment supplies which are satisfactory. Other essential equipments are lacking at this SNCU.



Same is the case with the newborn care units. There is not enough essential equipment available at the facilities. NBSU Pampore was having a better picture than other newborn stabilization units as is given in the graph below:



At the newborn care corner facility levels, the essential equipments for the essential newborn care units was lacking at most of the facilities. Though most of the facilities claimed of delivering essential newborn care services but the condition of the required equipments was very bad. Talking about the general equipments at the health facilities, most of the facilities lacked proper equipment supplies. E.g. surgical equipments were not adequate at any health facility. Wall clocks were present only in Awantipora and a computer only in Mattan.



Recommendations

Areas of concern	Actions Recommended
Policy issues: ➤ The concerned staff at the newborn care units is not given proper training under NSSK, F-IMNCI and FBNC. ➤ There was no proper separate staff for the newborn care units at the different health facilities ➤ Lack of proper infrastructure and equipments at NBCCs and NBSUs and SNCU ➤ Lack of essential treatment facilities for sick newborns at lower levels resulting patient overload at higher health facilities.	➤ The concerned medical and paramedical staff should be trained under NSSK, I-MNCI and FBNC. ➤ There should be separate staff for the proper functioning of these newborn care units and their duties should not be rotated to any other department at the health facilities. ➤ Proper infrastructure and equipments should be availed at the different newborn care units. ➤ Essential emergency treatment for sick newborns should be made available at least at SDH level
Programme issues: ➤ Proper post-natal care especially during the first week of life of newborn is not provided mainly for normal deliveries	➤ Proper post-natal care should be provided to the newborns
IEC: ➤ Lack of knowledge about the programme among service providers and beneficiaries	➤ Awareness should be made by means of mass media and awareness camps.

Annexures

1.

Details of equipment & supplies of SNCU Anantnag				
ITEM NO	ITEM DESCRIPTION	ESSENTIAL QUANTITY(No.s)	AVAILABLE	FUNCTIONAL
1	Stethoscope with neonatal chest-piece	12	6	6
2	Pulse oximeter	6	6	6
3	electronic neonatal sphygmomanometer	6	0	0
4	low-reading digital thermometers	12	4	4
5	electronic baby weighing scales	4	4	4
6	infantometers	1	0	0
7	radiant warmers with O2 bottles,trolley ,etc.	12	12	12
8	phototherapy units	6	6	6
9	foot operated suction pump	2	2	2
10	portable suction pump	2	0	0
11	hand-operated neonatal resuscitator 250 ml	2	0	0
12	hand-operated neonatal resuscitator 500 ml	4	0	0
13	oxygen supply system	1	1	1
14	head boxes for delivery of oxygen	4	4	4
15	laryngoscope set (neonatal)	6	0	0
16	surgical instrument (suture set)	2	0	0
17	syringe hub cutter	2	1	1
18	dextrometers/glucometers	3	3	3
19	haematocrit centrifuge	1	0	0
20	generator set 25-50 KVA	1	0	0
21	air conditioners	1	6	6
22	spot lamps	2	2	2
23	washing machine with dryer	1	1	1
24	washable slippers	4	4	4
25	wall clock	2	2	2
26	refrigerator	1	1	1
	DESIRABLE EQUIPMENTS AVAILABLE AT THE SNCU	DESIRABLE	AVAILABLE	FUNCTIONAL
27	oxygen concentrators	4	4	4
28	microscope	1	1	1
29	ECG	1	1	1
30	computer	1	1	1

2.

Details of equipment & supplies of NBSUs & general equipments at the 4 SDHs											
ITEM NO	ITEM DESCRIPTION	NBSUs									
		ESSENTIAL QUANTITY	AVAILABLE QUANTITY				FUNCTIONAL QUANTITY				
			Pampore	Tral	Bijbehara	Seer	Pampore	Tral	Bijbehara	Seer	
1	low-reading digital thermometers	4	1	1	1	1	1	1	1	1	1
2	electronic baby weighing scales	1	1	0	1	1	1	0	1	1	1
3	radiant warmers with O2 bottles,trolley,etc	3	6	2	2	2	5	2	2	2	2
4	phototherapy units	1	1	1	0	0	1	1	0	0	0
5	foot operated suction pump	1	1	1	1	1	1	1	1	1	1
6	hand-operated neonatal resuscitator 500 ml	2	0	0	0	0	0	0	0	0	0
7	laryngoscope set (neonatal)	2	0	0	0	0	0	0	0	0	0
8	mobile light for examination 220-12v	4	0	0	0	0	0	0	0	0	0
9	syringe hub cutter	1	0	0	0	0	0	0	0	0	0
OTHER EQUIPMENTS AT THE NBSU											
10	mechanical baby weighing scales		1	2	0	0	1	2	0	0	0
11	room thermometers		1	1	0	0	1	1	0	0	0
12	Stethoscope with neonatal chest-piece		2	1	0	0	2	1	0	0	0
13	Pulse oximeter		0	0	1	0	0	0	1	0	0
14	electronic neonatal sphygmomanometer		1	1	0	0	1	1	0	0	0
15	non-invasive BP monitors		0	1	0	0	0	1	0	0	0
16	heart rate/apnea monitor		1	0	0	0	1	0	0	0	0
17	oxygen concentrators		0	0	0	0	0	0	0	0	0
18	self-inflating bags		2	0	0	0	2	0	0	0	0
19	head boxes for delivery of oxygen		2	1	0	0	2	1	0	0	0
20	oxygen cylinders		2	2	3	2	2	2	3	2	2
21	surgical instrument (suture set)		2	1	0	0	2	1	0	0	0
22	wall clock		0	0	1	0	0	1	1	0	0
23	haemoglobinometer		2	0	0	0	2	0	0	0	0
24	spot lamps		1	1	2	1	1	1	2	1	1
GENERAL EQUIPMENTS AT THE HEALTH FACILITY											
25	microscope		3	2	2	1	3	2	2	1	1
26	generators		2	1	1	1	2	1	1	1	1
27	invertors		2	2	1	1	2	2	1	1	1
28	air conditioners		0	0	1	1	0	0	1	1	1
29	wall clock		3	1	2	1	3	1	2	1	1
30	computer		7	3	3	2	7	3	3	2	2
31	refrigerator		5	3	2	2	5	3	2	2	2
32	washing machine with dryer		1	1	1	0	1	1	1	0	0
33	autoclave equipment		4	3	2	2	4	3	2	2	2

3. Details of equipments of 8 NBCCs and the general equipments at the respective health facilities

ITEM DESCRIPTION	ESSENTIAL QUANTITY	AVAILABLE QUANTITY							
		kakapora	awantipora	dadsara	aripal	mattan	ashmuqam	marhama	b-kalan
radiant warmers with O2 bottles,trolley	1	1	1	1	1	1	1	1	1
hand-operated resuscitator 500 ml	1	0	0	0	0	0	0	0	0
spring weighing scale	1	1	1	1	1	2	1	1	1
foot operated suction pump	1	1	1	1	1	1	1	1	1
low reading digital thermometers	1	0	0	0	0	1	2	0	0
mobile light for examination	1	0	0	0	0	0	0	0	0
syringe hub-cutter	1	0	0	0	0	0	0	0	0
GENERAL EQUIPMENTS AT THE HEALTH FACILITY									
stethoscope		2	2	1	4	1	1	1	1
non-invasive BP monitors		1	1	1	3	1	1	1	1
electronic weighing scales		0	1	0	0	0	0	0	0
oxygen cylinders		2	6	2	1	1	5	2	2
haemoglobinometer		1	1	1	1	1	2	1	1
microscope		1	1	1	1	1	2	1	1
generator		1	2	1	1	1	1	1	1
invertor		1	1	1	1	1	1	1	0
refrigerator		2	4	2	1	2	3	1	1
autoclave equipment		1	1	2	2	1	2	2	1