Study to Explore Referral Mechanism of Pregnant Women in Kandhamal District, Odisha

By

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Internship Training

At

National Health System Resource Center

(NHSRC)

A Study to Explore Referral Mechanism of Pregnant Women in Kandhamal District, Odisha

By

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Under the guidance of

Prof. Anoop Khanna

MBA Hospital and Health Management

Year 2014-16

The IIHMR University, Jaipur

INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that Dr Kim Patras student of MBA Hospital and Health Management (PGDHM) from The IIHMR University, Jaipur has undergone internship training at National Health System Resource Center (NHSRC) from 15th February to 15th May 2016.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.
The Internship is in fulfillment of the course requirements.
I wish her all success in all his future endeavors.

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FW: Reminder for internship completion certificate Inbox x

Mr. Vinit Goklani <Vinit.Goklani@nhsrcindia.org> May 9 (3 days ago)
to ashokkaushik, hkb, dramanpreet.ka., me, Uddipan, uddipanfamily, Subrata

Dear Sir,

This is to confirm that Dr.Amanpreet Kaur & Dr. Kim Patras joined NHSRC on 15th February 2016 and are currently working as an Intern with Public Health Administration Division of NHSRC.

This email may be treated as certificate of Internship.

Regards,

Vinit Goklani
HRM NHSRC

Accepted as internship completion certificate.

12 May 16

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled "Study of referral mechanism of pregnant women in Kandhamal district, Odisha" and submitted by Kim Patras Enrollment No. 0159 under the supervision of Professor Anoop Khanna for award of MBA in Hospital and Health Management of the University carried out during the period from February 15, 2016 to May 15, 2016 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Acknowledgement

At the onset of the report I would like to express my special gratitude and appreciation to DrHimanshuBhushan (Advisor NHSRC-PHA) for allowing me to pursue my summer internship from National Health System Resource Center.

I would like to thank all the consultants in various departments and other staff members at NHM Kandhamal, Odisha for being so helpful all the time and making this summer training project an unforgettable experience.

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Dr. Kim Patras
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Abbreviations

ANM	Auxiliary Nurse Midwifery
BmoC	Basic Emergency Obstetric care
CHC	Community Health Center
DHH	District Headquarter Hospital
FRU	First Referral Unit
INR	Indian Rupees
IMR	Infant Mortality Rate
JSY	JananiSurakshaYojana
JSSK	JananiShishuSurakshaKaryakram
MMR	Maternal Mortality Ratio
MO	Medical Officer
NRHM	National Rural Health Mission
PHC	Primary Health Centre
SBA	Skilled Birth Attendance
SC	Sub Center
SDH	Sub District Hospital
SN	Staff Nurse
U5MR	Under Five Mortality Rate

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Introduction

Everyday hundreds of women die during pregnancy or from childbirth-related complications. In 2013 most of these deaths were in developing regions, where the maternal mortality ratio is about 14 times higher than in the developed region. Globally there were an estimated 2,89,000 maternal deaths in 2013, equivalent to about 800 women dying each day. Based on data from 2003-09, haemorrhage was the major cause of maternal deaths [1].In India 59 percent of the maternal deaths were attributed to direct obstetric causes [2].

Most of these deaths of pregnant women and their neonates could be avoided with simple and high impact interventions but analyses show that too many pregnant women miss out these key interventions [1]. Thus an effective perinatal referral transport service is critical for maintaining the continuum of care.

A *referral* can be defined as any process in which health care providers at lower levels of the health system, who lack the skills, the facilities, or both to manage a given clinical condition, seek the assistance of providers who are better equipped or specially trained to guide them in managing or to take over responsibility for a particular episode of a clinical condition in a patient [3]. There is a particular referral system in health sector. SCs would refer to PHCs, from PHCs to CHCs and from CHCs to SDH or DHH.District hospital if needed would refer the cases to medical colleges.

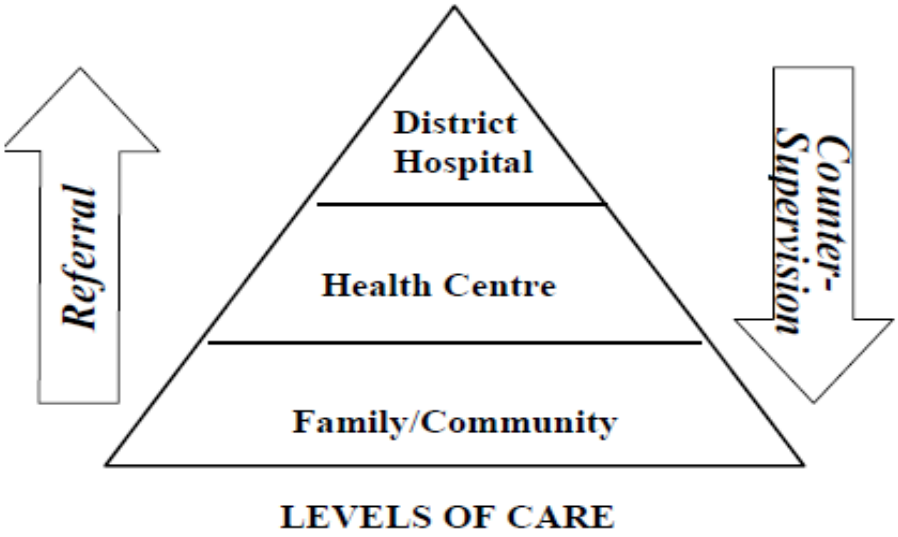


Figure1. The health care pyramid at district level (Adapted from the Mother-Baby Package (WHO 1994))

Requirements of an Effective Referral System*

• An adequately resourced referral center (meaning adequate staff, equipment's, supplies, budget, managers etc.)

• Communications and feedback systems

• Designated transport

• Agreed setting –specific protocols for the identification of complications

• Personnel trained in their use

• Teamwork between referral levels

• Unified records system

• Mechanism to ensure that patients do not bypass a level of the referral system

* as mentioned by Murray et al,2001 (20)

A good referral system may contribute to reduce all three delays. If a population knows that a system is reliable and affordable, families may make the decision to seek care more quickly (the first delay). Access to good and time effective transport services(the second delay). By forewarning staff of the imminent arrival and condition of a patient, they should be better prepared to respond quickly and appropriately (the third delay) [4].

There has been an increase in rates of facility births from 56 percent in 1990 to 68 percent in 2012 globally [5]. DHH being a government institution and easily accessible to people, it is perceived to be cheap and convenient place to seek health services. It worsens the conditions in state like Odisha with the presence of already inadequate infrastructure and human resource [6]. With an arising need to combat the increasing demand of the people of Kandhamal and strengthening DHH, factual basis is required to take up the required actions.Also research work in the field of referral system has not yet been conducted in Kandhamal district of Odisha.

Therefore based on the three delay model a study was planned to understand the referral system in Kandhamal district.

JSY & JSSK - Maternal health programin Indiawith free referral facility for pregnant women.

- JSY is a safe motherhood intervention under NRHM programme with a cash incentive of INR 1400 and INR 1000 to rural and urban women respectively for institution based delivery. [7]
- Provision of cash assistance for referral transportation to go to the nearest health center for delivery. This amount is determined by the state (should not be less than INR 250/ delivery). [7]

Entitlements for pregnant Women under JSSK (Guidelines of JSSK, GoI, 2011)

a. Free and zero expense Delivery and Caesarean Section
b. Free Drugs and Consumables
c. Free Essential Diagnostics(Blood,urine tests and Ultra-sonographyetc)
d. Free diet during stay in the health institutions(up to 3 days for normal delivery & 7days for caesarean section)
e. Free provision of Blood
f. Free transport from home to health institutions (102)
g. Free transport between facilities in case of referral
h. Drop back from institutions to home after 48 hours stay
i. Exemption from all kind of user charges.

102/108 National Ambulance Service [8]

- 108 is predominantly an emergency response system only for emergency and other trauma cases.
- 102 services essentially aim to cater the needs of pregnant women and children though other categories are also taking benefit and are not excluded.
- In Odisha Janani express system of transportation was operational in the state but they have been hindered by lack of proper management and tracking. The coverage of beneficiaries from home to institution has never crossed 60 percent while drop back is further worse at only 40 percent. However the decision was made to launch a dedicated 102 transport service with centralized call center and GPS-based tracking system to ensure 100 per cent coverage of the beneficiaries. [9]

- "19"Janani express vehicles were replaced with "8" 102 vehicles in Kandhamal district. (HMIS Odisha)

Healthcare system in Kandhamal

Population: 6, 48,201 [Census 2011].

IMR: 82[AHS 2013]

MMR: 245[AHS 2013]

U5MR: 139[AHS 2013]

Kandhamal is one of the most backward district of Odisha. The district is divided into 12 blocks. One DHH and SDH are the two FRU's in the district. There are 172 SC, 40 PHC and 14 CHCs. 38 delivery points has been identified i.e. CHC & PHC of which 28 are functional and 10 are promising delivery points. These delivery points provide BEmoC care services to the people of Kandhamal.

Review of literature:-

- An evaluation study of NRHM conducted in seven states of India viz. UP,MP, Jharkhand, Odisha, Assam, J&K, and Tamil Nadu (2011) stated that in Odisha greater patient load has been noted in DHs, SDHs and CHCs as compared to PHCs and SCs. This could be higher referred cases from lower level primary health facilities to higher/secondary level health facilities.
- A study on "Effectiveness of referral system for antenatal and intrapartum problems in Gutu district, Zimbabwe" stress on proper antenatal identification of appropriate risk factor, referral and its compliance to decrease intra-partum emergency referral. It suggest that referral criteria need to be reviewed constantly in order to reduce unnecessary referral [2].
- An evaluation study of NRHM (2011) also found that in most of the districts under Odisha, the mobile medical units are not working and also inefficient emergency transport system is hampering the outreach of health care services.
- Chaturvedi S. concluded in her paper that secondary level facilities received few referrals, while referrals were made directly to district hospitals. She found that adjusted odds for adverse birth outcomes were twice among those referred than those not referred (AOR 2.6, 95% CI 1.1-6.6. [5]

- A study conducted on “The safe motherhood action agenda” stated that having a health worker with mid-wifery skills present at child birth, backed up with transport in case of emergency referral is perhaps the most critical intervention for making motherhood safe. [10]
- A study to strengthen referral system stated that an emerging strategy for managing trained health workers is to put heightened focus on referral system, broadly defined to include not only transportation but the full range of inputs needed to efficiently move emergencies across the home to hospital continuum to reach definitive treatment in time to survival. [11]
- Most of the obstetric complications cannot be predicted or prevented [12] therefore access to obstetric services through a responsive and timely referral system is crucial to avert maternal mortality and morbidity.
- In studies using records from health facilities, findings often indicate that the highest proportion of users are located close to the facility, e.g. within a radius of five miles or kilometres and that the proportion of users decline as the radius increase. [13]
- Caretakers may be faced with a number of barriers before they comply with referral advice. Such barriers can be financial, geographic and cultural. The relative importance of these barriers is presently unknown to public health planners in most countries implementing IMCI; consequently, interventions to improve caretaker compliance with referral are difficult to develop. [14]

Research question:-

1. What is the facility based referral mechanism of pregnant women in Kandhamal district of Odisha?
2. What is the institutional preparedness for assured basic obstetric care services in Kandhamal district of Odisha?
3. What is the perception of pregnant women for service availability and its utilization in Kandhamal district of Odisha?

Objectives

1. To explore the facility based referral mechanism of pregnant women in Kandhamal district of Odisha.
2. To assess the institutional preparedness for assured basic obstetric care services in Kandhamal district of Odisha.
3. To study the perception of pregnant women for service availability and it quality in Kandhamal district of Odisha.

Methodology

- **Sources of data**:

  1. Quantitative data: individual interview method for cross sectional data collection through semi structured questionnaire for case record reviewand checklist for facility assessment. Observational method was also used to obtain the data in its actual form. Patient referral slips, patient record registers, referral in and out registers and delivery room registers were also checked to access the required information.

  2. Secondary data from DHH obtained and analyzed for selection of cases, their medical details and socio-demographic background information.

  3. Qualitative data collected through semi structured questionnaire for pregnant women who delivered their child at DHH and availed its services at the time of delivery in the month of January & February.

- **Tool used**: Structured questionnaire and checklist to obtain quantitative data and semi structured questionnaire for qualitative data collection.
- **Study design**: Descriptive study
- **Study duration**: 3 months
- **Study setting**: Kandhamal district of Odisha.

Kandhamal District, home to Kutiakondh tribe, is a hilly district in Odisha. With one of the highest MMR of 245 [AHS 2013] amongst all the districts, it

has been categorized as a High Focus District. Also being naxallite affected it faces greater challenges.DHH is a 164 bedded hospital located at Phulbani block. Total deliveries conducted at DHH in the month of January and February was 448. It was found that majority of cases (31%)came from only three blocks of Kandhamal those were G. Udayagiri, Khajuripada&Phiringia. 61 cases were randomly selected from these three blocks. Facility assessment of all the delivery points in the three blocks was also conducted. Other 39 percent of cases came from DHH block and 30 percent from other eight blocks.

Sampling:

- **Sampling technique**: purposive sampling.
- **Selection of respondent:**

1. **Quantitative study:** Key informants/service providers were interviewed at facility level: ANM at SC/ MO or staff nurse at PHC and Specialist/MO/SN at CHC and DHH to obtain required information
2. **Qualitative study:**Pregnant women from the selected blocks who delivered their child at DHH and availed its services at the time of delivery in the month of January & February were interviewed individually.

- **Sample size:**

All the delivery points (DP) in selected blocks (six in number) were assessedfor cross sectional data collection of referred cases and checklist for facility assessment.

This is a purposive sampling and on job study was conducted. A sample of 61 women were randomly selected and interviewed who delivered their child at DHH and availed its services at the time of delivery in the month of January & February

Technique:

1. Personal interview with key informants or service providers at facility level to obtain quantitative data

2. Observational method used to obtain data present in its actual form in the facilities.
3. Personal interview conducted with women who delivered their child at DHH and availed its services at the time of delivery in the month of January & February.

Tool: Structured questionnaire and checklist to obtain quantitative data and semi structured questionnaire for qualitative data collection.

Data Analysis Plan:

1. Data will be analyzed based on the objective of the study.
2. Most of the analyses will be done using ms-excel and in SPSS using descriptive statistics.
3. The result will be analyzed and expressed in percentage and mean value.

Limitations:

- Sample is small and the size might not represent the entire universe of the study.
- The Language barrier may act as a problem during communication with respondents
- There is a time constraint in the study.
- Cultural limitations.

Ethical Considerations:

- The study will maintain the confidentiality of the respondents.
- Information received by the respondents will not be misused in any form.
- The study will ensure that information shared by the respondents would not put them in any kind of risk.

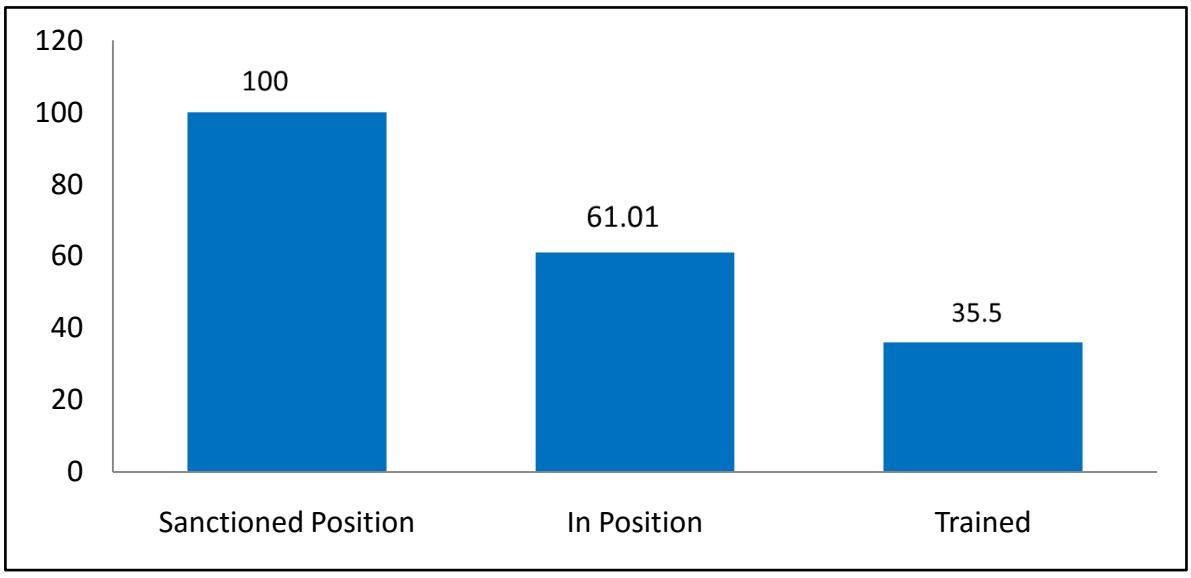
Table1.Work Plan:-

S. No	Task	Duration (15th February to 11th May 2016) in weeks											Remark
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th&12th	

1.	Literature review, Development of study design and Questionnaire												
2.	Field study and data collection												
3.	Data analysis and Report writing												
4.	Development of final report, presentation and final submission												

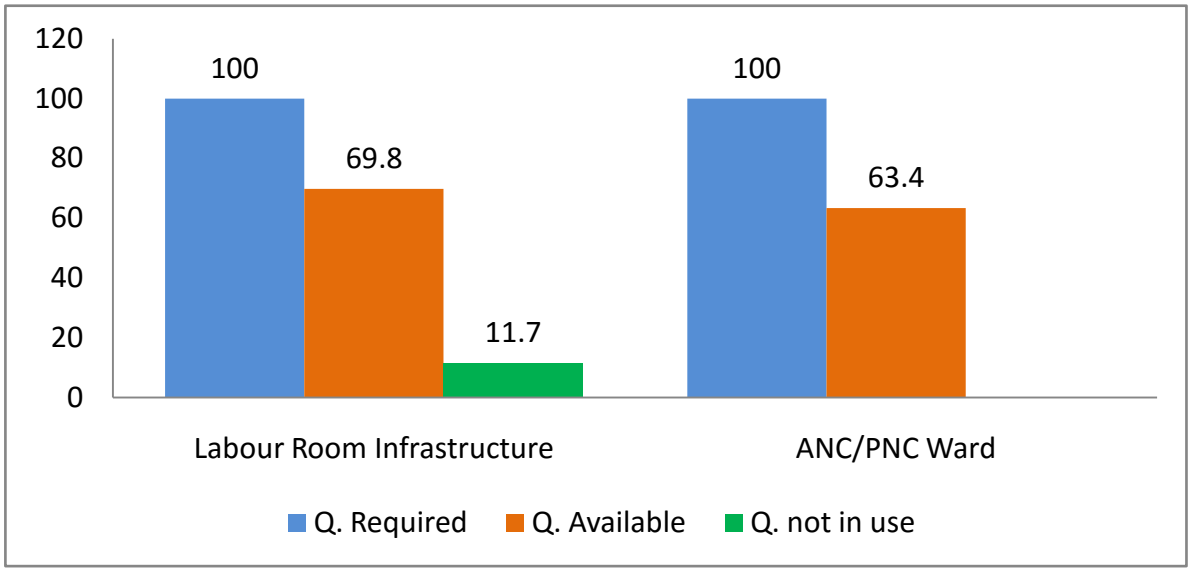
Result:

Fig2. Sanctioned Position VsIn Position (CHC & PHC=6)



Inference: 61 percent of the human resource in position out of the total sanctioned positions. Only 35 percent of in position were trained.

Fig3: Infrastructure Availability(CHC & PHC =6)



Inference: Almost 70 percent of infrastructure for labour room was present. 12 percent of 70 percent was still lying unutilized.

Other findings: 44.92 percent (62) of drugs were available out of the required amount i.e. 138.

Table 2. Demographic Characteristics of study sample n=61

Indicators	Particular	Frequency	Percentage
Age of the respondents	Below 20	16	26.23
	21 – 25	22	36.07
	26 – 30	14	22.95
	31 – 40	7	11.48
	41-45	2	3.28
Religion	Hindu	59	96.72
	Christian	2	3.28
Cast	SC	19	31.15
	ST	26	42.62
	OBC	15	24.59
	General	1	1.64

Income	APL	12	19.67
	BPL	49	80.33
Education	Uneducated	4	6.56
	Primary education	43	70.49
	Secondary education	14	22.95

Inference: 26 percent of the women were below 20 years of age. 59 percent were in the age group of 21 to 30 years and 11 percent were in the age group of 31 to 40 years of age.

Almost 97 percent of respondents were hindu. Majority (43 percent) of the women belonged to schedule tribe, 31 percent were schedule caste and 24 percent were from other backward classes.

80 percent of the respondents were below poverty line (BPL).

Evidently 70 percent of respondents had primary education and almost 23 percent had secondary education.

Table3. Transportation Details of study sample n= 61

Particulars	Options	Frequency	Percentage
Type of vehicle	Ambulance (102/108)	29	47.5
	Hired vehicle	28	45.9
	Own vehicle	3	4.9
	Public transport	1	1.6
Reason for not using ambulance	Persons used ambulance	29	47.54
	Called but didn't come in time	26	42.62

	Have our own vehicle	1	1.64
	Can easily get hired vehicle	5	8.2

Inference: 47 percent of respondents received ambulance services. 47 percent of the other respondents called but could not get the service on time

Other findings: Only 48 percent(29) of total respondents (61) received the drop back facility

Table 4. referral Details of Pregnant women who were referred to DHH at the time of delivery. N=31

Referral details	Options	Frequency	Percentage
AT WHAT POINT REFERRAL WAS MADE	Before entering the Hospital	8	25.8
	After examination before admission	20	64.5
	After delivery	3	9.7
PREVIOUS SIGNIFICANT OBSTETRIC HISTORY	LSCS	2	6.45
	Abortion	1	3.23
	None	28	90.32
OBSTETRIC COMPLICATION	PROM - Premature Rupture of Membrane	1	3.22
	Retained Placenta	3	9.68
	None	27	87.1

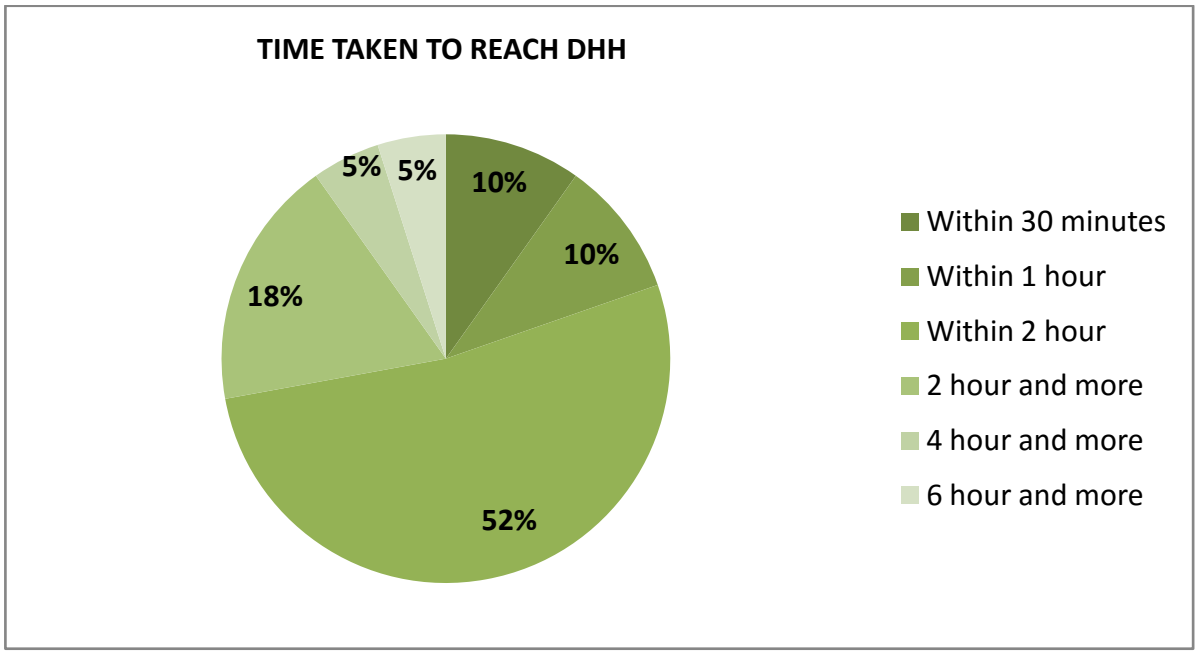
Inference: Cause of referral of only seven cases of 31 referred cases was received from the documentation

Other findings:

- 45 percent of the pregnant women received any treatment before referral was made.
- 71 percent of the respondents received the referral slip.

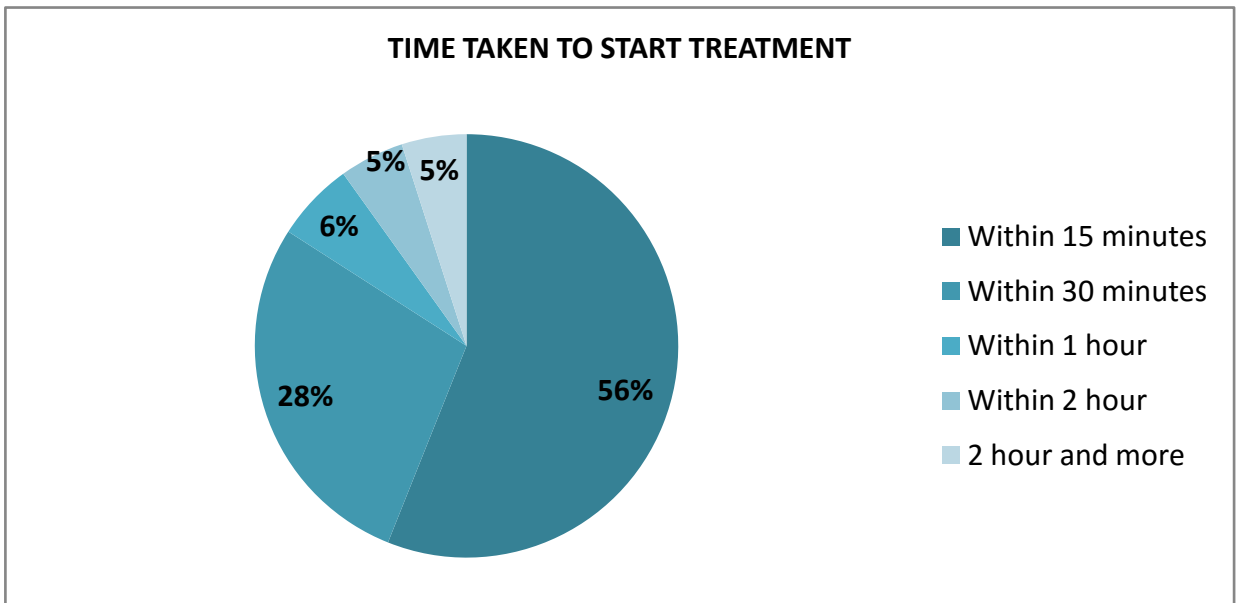
- Referral in and out register, Reporting of referred cases to block/district/state and
- Follow up of referred cases was not being done on any of the facility visited.

Fig4.Time lost in seeking health services at the time of emergency: time taken to reach DHH(percentages)



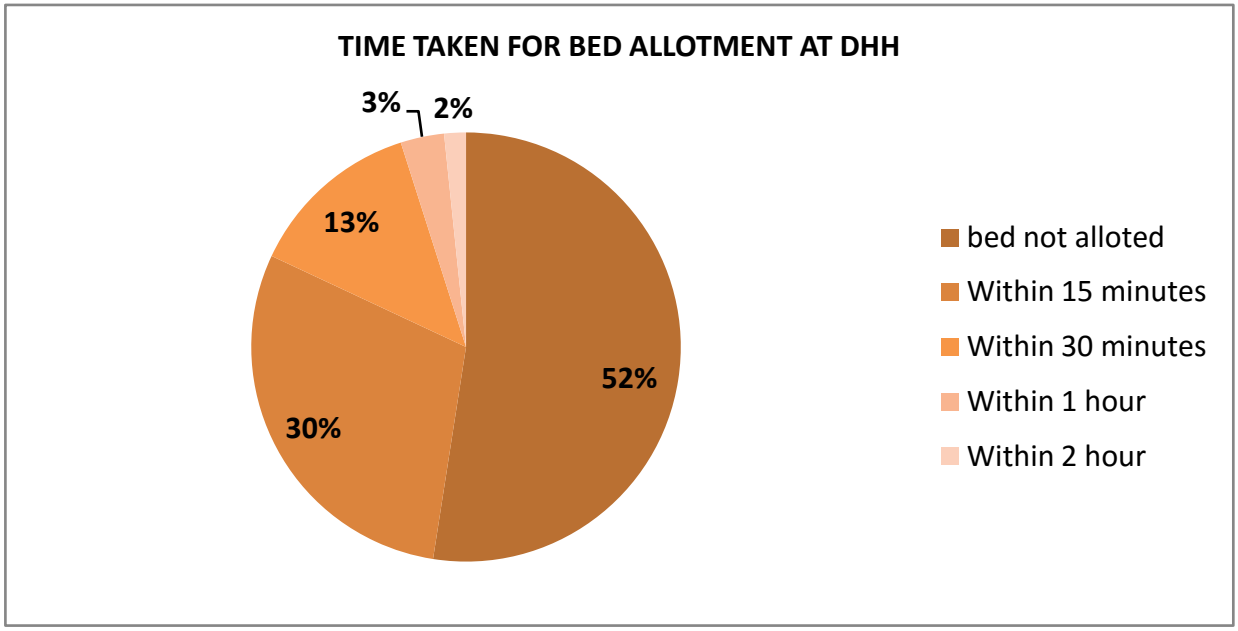
Inference:28 percent of respondents required 2 or more than 2 hours to reach DHH.

Fig5. Time taken to start the treatment at DHH



Inference: In addition 44 percent of pregnant women received treatment in 30 and more than 30 minutes

Fig6. Time taken for bed allotment at DHH

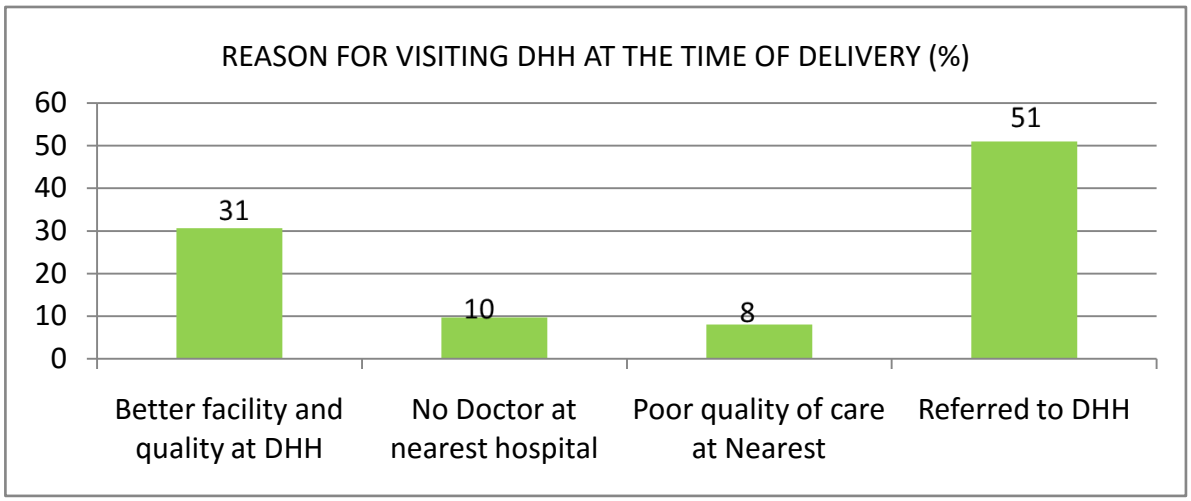


Inference: 52 percent of patients did not get the bed ticket. 30 percent received the service within 15 minutes.18 percent of patient received the services within 30 or more than 30 minutes.

Table5. Perception of Pregnant women for service availability andits quality in Kandhamal. n=61

PREGNANT WOMEN WHO VISITED NEAREST DELIVERY POINT DURING DELIVERY PERIOD		
	Frequency	**Percentage**
Yes	**58**	**95.08**
No	**3**	**4.91**

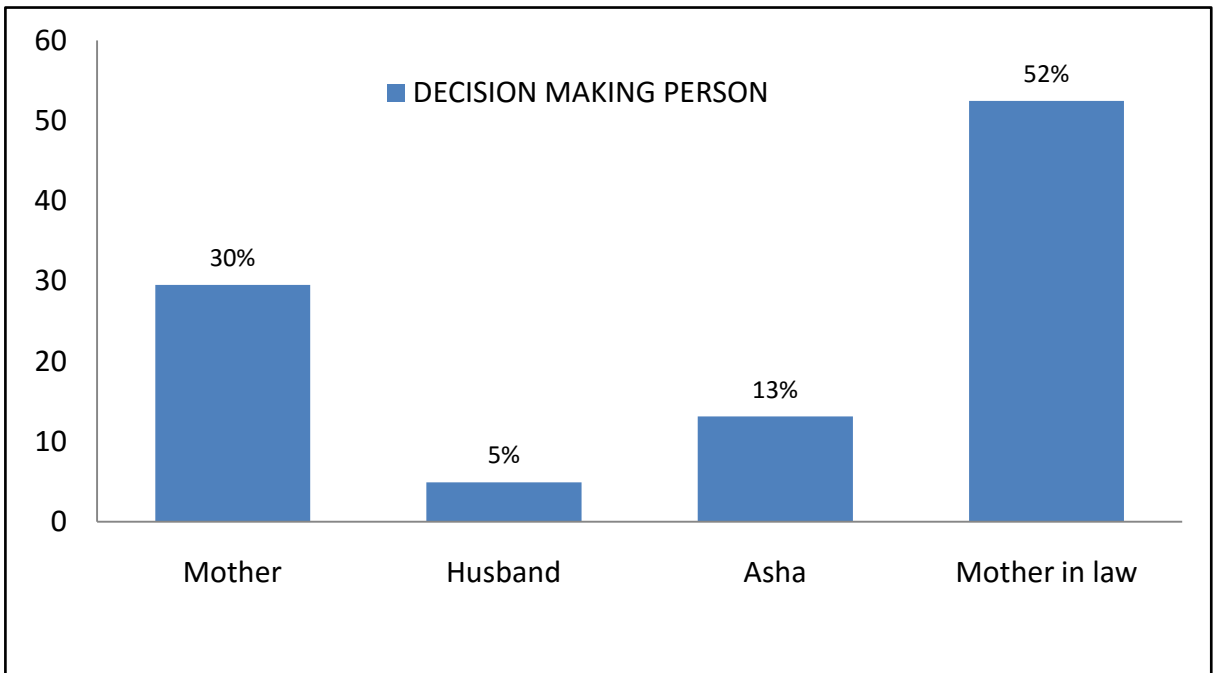
Fig6. Reasons given by respondents for visiting DHH at the time of delivery



Inference: 51 percent of the total respondents were referred to DHH at the time of delivery.

31 percent of the women visited DHH for better facility and service quality. Ten percent of the respondent came to DHH due to non-availability of doctor at the nearest hospital.

Fig7. Decision making person at the time of emergency



Inference: Mother (30 percent) and mother in law (52 percent) were the key decision makers in majority of the cases.

Discussion

This study was conducted to study the referral mechanism of pregnant women based on the three delay model of pregnant women who visited DHH at the time of delivery. Systematic referral mechanism was not in practice at any of the facility visited. Documentation of the referred cases at any level was not found satisfactory. Referral details were not complete. Poor quality of data on referrals of pregnant women was found in the system. No reporting mechanism at block/district level was in place. Patients were referred without the referral slips. Availability of manpower infrastructure and other consumables was also below the required level. The available human resource and infrastructure was underutilized. Absence of feedback or follow up of referred patients at all the facilities visited. Only half of the patients could avail the transportation services. The patients who travelled from home to reach the nearest facility and then were referred to higher facility faced more delay in receiving the services. The effect of all the factors was distinct and visible in the perception of respondents. Although the beneficiaries received delay in service delivery yet they preferred DHH over the nearest institution. The delay in decision making, time taken to arrange for the transportation, delay in reaching the facility, delay in receiving the services, no follow up or feedback mechanism in place, all of them not only effecting the perception but also leads to adverse outcomes at the time of emergency. Even a two hour delay in an obstetric emergency like post-partum hemorrhage may lead to unwanted results. Maternal-newborn survival in the referral system is influenced by combined effects of point of care, the skill configuration of CHC personnel and distance travelled (Dogba et al., 2011). With increasing demand and excess utilization of resources at district hospital, the quality of services is thus getting affected.

Conclusion

Findings from study conducted in Kandhamal indicate that the systemic mechanism of referrals is not in place for pregnant women. Documentation of the referred cases and reporting to higher level was not in place. Feedback mechanism and follow up of patients referred was absent. Referral details were partially recorded due to which reasons for referral were not found. Transportation services are not available in time. The facilities

assessed needs to be strengthened to provide assured basic emergency obstetric care. Non availability of trained manpower, required infrastructure and consumables resulted in reduced utilization of nearest facility services. Delay in decision making, reaching the facility and receiving the services. The perception of beneficiaries depicts DHH to be a preferred institution than the nearest facility. **Recommendations:-**

- Kandhamal is an HPD, HR availability should be enhanced to provide required services. Retired medical officers and gynecologist in administrative positions could also be involved in clinical practices.
- Newly recruited MO and SN are yet to be trained
- Strengthening referral system: Monthly documentation and reporting of details of referred cases at block/district/state level.
- Hand holding support with other development partners and NGOs
- Up-gradation of CHC & PHCs in PPP mode
- Availability of more ambulances (102)/alternate transport vehicles exclusively for pregnant women and child.
- Patient feedback mechanism based on the three delays for pregnant women at every delivery point.

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Annexure

Form A

Questionnaire to explore the Perception and Experience of pregnant for service availability and it quality in Kandhamal district of Odisha.

The respondents are mother who have delivered their child at DHH in the month of January and February. The Study is done in Kandhamal District of Odisha

Introduction

Block:-	
Village:-	
Full name of the respondents:-	
Phone number:-	
Age (in years)(if don't know-99):-	
Minimum Level of education:-	
Number of children:-	

Interview (dd/mm/year) :- _ _/ _ _/ _ _ _ _

Timings: Start of interview: _____ End of interview: _____

Introduction to the Interview and Consent:-

Namaste. My name is Dr Kim Patras. I am an employee at National Health System Research Center (NHSRC) posted at Kandhamal for the project of Model Health District.

I am doing a Health related Study on the Topic "Exploring referral system of pregnant women in Kandhamal district of Odisha" for completion of my Dissertation which is an essential and final part of my college education. I have randomly selected you as my respondent for the study. I would like to ask you a few questions. Your sincere response matters me a lot for accomplishment of my work. For that I seek your kind support and valuable 20 minutes from your busy life. Further, I would like to inform you that you have all the right to deny or refuse to participate in the interview at any point of time during the Session. Your responses will be kept confidential amongst the research Team and your personal identity will be never made Public

Consent:–I give my approval for the interview. All the things have been explained to me up to my satisfaction.

Interviewee Signature:-

Date:

Questionnaire

S.No	Question	Options			Code
1.	How Many Children Do you have?	_____			
2.	Place of Birth of older child?	First Child	Second Child	Third Child	
		a) Pvt. Hospital b) Govt. hospital c) Home d) Other			1 2 3 99
3.	Where do you prefer to give birth to your child	1. At home 2. At Government hospital 3. At Private Hospital/ Clinic 4. Any Other(Specify)_____			1 2 3 99
4.	If at home, what are the reasons	1. Pregnancy and child birth are natural process(Don't need to go hospital) 2. History of home birth 3. Feel shy 4. Cannot go alone to the facility 5. Tradition to conduct at home 6. Local dai and old women are good in conducting delivery 7. No delivery facility in close proximity 8. No guarantee of treatment even after reaching the facility 9. No doctor at close by delivery facility 10. Have to travel to hospital in public transport 11. Ambulance is not available in time as required 12. Loss of money for transportation 13. Others (specify)----------			1 2 3 4 5 6 7 8 9 10 11 12 99
5.	If at facility, what are the reasons	1. History of Delivery of Facility 2. Only when complication occurs 3. Healthy mother and child 4. People say to go to hospital during delivery 5. All of the Above			1 2 3 4 5
6.	Who decided which facility	1. Mother in law			1

	to visit at the time of medical emergency/delivery?	2. Husband 3. Asha 4. Family Member 5. Husband and Asha 6. All of the Above	2 3 4 5 6
7.	Who motivated you to go to DHH Hospital?	1. Self 2. Family Members 3. ANM 4. Neighbor 5. Doctor 6. ASHA(Specify name)_____ 7. Any Other_____	1 2 3 4 5 6 7
8.	What Facility/ benefits did you get for delivery at govt. Hospital?	1. Free Transport 2. Free Medicine 3. Financial Help(Specify Amount)_____ 4. Free Facilities with Financial Help 5. Free Facilities with Transportation 6. All of the Above	1 2 3 4 5 6
9.	Where is the nearest hospital with delivery facility?	Name of the place_____	
10.	Do you know about _____ Hospital?	1. Yes 2. No	1 2
11.	Have you ever visited this facility during the period of pregnancy?	1. Yes 2. No	1 2
12.	If yes, then what was the reason of not visiting this facility at the time of delivery?	1. Better facility and quality at DHH 2. No Doctor at nearest hospital 3. Poor quality of care at Nearest hospital 4. Referred to DHH	1 2 3 4
13.	How did you reach to DHH for Delivery?	1. By one vehicle 2. By changing two vehicles 3. By multiple vehicles	1 2 3
14.	If one vehicle is used. Please Specify derails the kind of vehicle with cost paid in each case.	1. Ambulance (102/108) 2. Hired vehicle(Cost)_____ 3. Own vehicle(Cost)_____ 4. Public transport(Cost)_____ Others (specify).....	1 2 3 4 99
15.	If ambulance was not used what were the reasons of not using ambulance for mother	1. No idea about 102/108. 2. Called but didn't came in time 3. Have our own vehicle 4. Can easily get hired vehicle 5. Public communication is cheaper and good.	1 2 3 4 5 99

		6. Any Other_____-	
16.	How much time required to arrange for the transportation	1. Within 15 minutes 2. Within 30 minutes 3. Within 1 hour 4. Within 2 hour 5. 2 hour and more 6. 6 hour and more	1 2 3 4 5 6
17.	How much time was required to reach the facility	1. Within 15 minutes 2. Within 30 minutes 3. Within 1 hour 4. Within 2 hour 5. 2hour and more 6. Other (then specify)	1 2 3 4 5 99
18.	Who accompanied you while travelling from home to DHH	1. Mother in law 2. Father in law 3. Mother 4. Husband 5. Relative 6. Friend 7. ASHA/Health worker 8. ANM/Staff Nurse 9. No one 10. Other (specify)	1 2 3 4 5 6 7 8 9 99
19.	Who arranged for the transportation	1. Mother in law 2. Father in law 3. Mother 4. Husband 5. Relative 6. Friend 7. ASHA/Health worker 8. ANM/Staff Nurse 9. No one Other (specify)	1 2 3 4 5 6 7 8 9 99
20.	Did you get drop back facility from district hospital	1. Yes 2. No	1 2
21.	Have you paid any service charge for transportation	1. Yes 2. No	1 2
22.	After reaching DHH at the time of delivery how did you reach the ward	1. On wheel chair 2. On stretcher 3. Walked through 4. Carried by the other person 5. Others(specify)	1 2 3 4 99
23.	Within how many minutes treatment was started?	1. Within 15 minutes 2. Within 30 minutes 3. Within 1 hour 4. Within 2 hour	1 2 3 4

		5. 2 hour and more 6. Other (then specify)	5 99
24.	Did you get the bed at the time of admission?	1. Yes 2. No	1 2
25.	If yes with in how many minutes	1. Within 15 minutes 2. Within 30 minutes 3. Within 1 hour 4. Within 2 hour 5. 2hour and more 6. Other (then specify)	1 2 3 4 5 99
26.	Who conducted your delivery	1. Staff nurse 2. Doctor/ Specialist 3. Any Other_____	1 2 99
27.	How was the behavior of staff during the hospital visit	1. Very good 2. Good 3. Neutral 4. Bad 5. Very bad	1 2 3 4 5
28.	Duration of Stay	1. Less than 24 hrs 2. Less than 48 hrs 3. 48 hrs and more 4. Other in number_____	1 2 3 99
29.	Would you suggest others to come to DHH for delivery	1. Yes 2. No	1 2
30.	If yes, Why	1. 2. 3. 4.	
31.	Referral details	1. Yes 2. No	1 2
32.	At what point in the process of delivery referral was made	1. Before entering the Hospital 2. After examination 3. Before admission 4. After Admission 5. Before delivery 6. After delivery 7. Others_____	1 2 3 4 5 6 99
33.	Who recommended the referral	1. Doctor/Nurse/ANM 2. Self-referred 3. Others_____	1 0 99
34.	Did you received any treatment before referral	1. Yes 2. No	1 2
35.	Did you received any referral slip	1. Yes 2. No	1 2

Form B(Annexure 2)

Facility assessment for Basic Obstetric obstetric care services at sis delivery points of Kandhamal

Block							
Facility name							
Population covered							

Section A: Human Resource

S.no	Human resource	Sanctioned position	In position	SBA(21 days)	NSSK	BEmOC(10 days)	CEmOC(16 weeks)	LSAS(18 weeks)
HR1	Obgyn specialist							
HR2	MO(non-specialist)							
HR3	AYUSH							
HR4	staff nurse							
HR5	ANM/LHV							
HR6	Helper							

Section B: Infrastructure for Labour room

S.No	Item name	Quantity required	Quantity available	Not in use as per MNH tool kit		
IF1	Labour table					
IF2	Kelly's pad					
IF3	Mattress					
IF4	Sheet with pillow					
IF5	Macintosh					
IF6	foot rest					
IF7	wall clock with seconds					
IF8	Wall mounted thermometer					
IF9	Suction apparatus					
IF10	Equipment for adult resuscitation					
IF11	Equipment for neonatal resuscitation					
IF12	Delivery trolley					
IF13	IV drip stand					
IF14	Screen/Partition					
IF15	Lamp wall mounted or side					
IF16	Autoclave drum					
IF17	Refrigerator					
IF18	Sphygmomanometer					
IF19	Adult & newborn thermometer					
IF20	Newborn weighing					

	machine						
IF21	Consumables						
IF22	Pulse oxymeter						
IF23	Sterilizer/ Autoclave						
IF24	Oxygen concentrator						
IF25	Oxygen cylinder						
IF26	Partograph						
IF27	Coloured bins for BMW						
IF28	Hub cutter and puncture proof container						
IF29	Plastic tub for .5% chlorine concentration						
IF30	Wheel chair/patient trolley						
IF31	4 Trays:Delivery, baby, medicine & emergency tray						
IF32	7 trays for delivery(delivery tray, Emergency tray, Episiotomy tray, Medicine tray, Emergency drug tray, Baby tray, MVA tray, PPIUCD tray)						
IF33	Hand washing area and attached toilet						
IF34	24X7 water supply at delivery point						
IF35	24xElectricity supply						
IF36	Foeto-scope						
IF37	Stethoscope						
IF 38	NBCC						

ED25	IEC (simplified partograpg,vaginal bleeding before and after 20 weeks,management of PPH,eclamptia,AMTSL,handwashing,infectionprevention,management of atonic PPH)						
	Total						
ANC/PNC Ward							
Sno.	Item name	Quantity required	Quantity available	Not in use			
W1	Beds with mattress						
W2	Bed sheet with pillow						
W3	bedside locker						
W4	Stool or bench for every bed						
W5	Drinking water(clean)						
W7	IEC(KMC, Breastfeeding)						
W8	Washroom for patient						
Section C: Emergency drugs and supplies							
S.No	Emergency drugs	Total no. of drugs required	Drugs available				
ED1	Inj. Oxytocin						
ED2	Gentamicin						
ED3	IngVit K						
ED4	Betamethason						
ED5	Inj Hydralazine						
ED6	Cap Ampicillin 500mg						

ED7	Tab Metronidazole						
ED8	Inj Lignocaine 2%						
ED9	Ing Adrenaline						
ED10	Inj. Hydrocortisone Succinate						
ED11	Inj Diazepam						
ED12	InjPheneraminemale ate						
ED13	InjCarboprost						
ED14	InjPentazocine chloride						
ED15	Inj Promethazine						
ED16	InjBetamethazone						
ED17	Inj Hydralazine						
ED18	Inj Mag sulphate						
ED19	IV Ringer Lactate						
ED20	N. saline						
ED21	IV sets with 16 gauge needle						
ED22	IV Cannula						
ED23	Vials for blood collection						
ED24	Tab nifedipine						
ED25	Tab methyledopa						
ED26	Suction Catheter						
Section D: Data Element							
S no	Questions						
D1	Total no. of deliveries conducted in last 3 months						
D2	No of deliveries conducted at home in last 3 months						
D3	Total no. of maternal referrals in last 3 months						

D4	Average duration of stay(in hrs) of mother & child in hospital after delivery						
D5	Whether functional ambulance facility available						
D6	Whether alternative referral transport source identified						
D7	Whether functional blood storage available in the facility						
D8	Are referral reg. upto date with all the columns filled						
D9	Reporting of referred cases to block/ district						
SectionE: Referral out details: Patients referred in the month of Jan & Feb							
Sno.	Questions	Response	Code				
1	Cause of referral						
2	Date of referral						
3	Record in the referral register (Y/N)						
4	Follow up of the patient made (Y/N)						