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Study to assess the maternal and new born services in Primary health centres of Kurnool district.Visweswara Rao.Guthi¹, Praveena Ganapa², Sreedevi Arepalli³

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ABSTRACT

Background: There is no reliable way to predict which woman will develop pregnancy-related complications, it is essential that all pregnant women have access to high quality obstetric care throughout their pregnancies. The objective of this study to assess the maternal and new born services in Primary health centres of Kurnool district. **Methods:** This study is a facility based cross sectional study carried out from November 2014 - May 2015 in administrative limits of Kurnool district. Questionnaire is attempted to assess the Maternal and new born services available-Antenatal care, Intranatal care, Post natal care, Newborn care and BEmONC services etc. **Results:** all PHCs health personnel were practicing administration of parenteral antibiotics, uterotonic drugs, performing manual removal of placenta, in 16/21(76.19%) PHCs health personnel were performing neonatal resuscitation, in 4/21(19.04%) PHCs health personnel were practicing administration anticonvulsants and in 1/21 (4.76%) PHCs health personnel were performing removal of retained products and performing assisted deliveries. Most of PHCs (85.71%) were providing birth preparedness services. 9/21(42.58%) PHCs health personnel were noting time of rupture of membranes. In 16/21(76.19%) PHCs, health personnel were providing resuscitation services. **Conclusions:** Antenatal, intranatal, postnatal and newborn services were adequate in most of the PHCs.

Key Words: BEmONC services, Maternal and newborn services, Primary health centres.

INTRODUCTION

The World Health Organization (WHO) estimates that, of 536,000 maternal deaths occurring globally each year, 136,000 take place in India. Estimates of the global burden of disease for 1990 also showed that India contributed 25% to disability-adjusted life-years lost due to maternal conditions alone. Unfortunately, there is little evidence that maternity has become significantly safer in India over the last 20 years despite the safe motherhood policies and programmatic initiatives at the national level.¹

Because there is no reliable way to predict which woman will develop pregnancy-related complications, it is essential that all pregnant women have access to high quality obstetric care throughout their pregnancies. Maternal complications and poor perinatal outcome are highly associated with non-utilization of antenatal and delivery care services and poor socioeconomic conditions of the patient. Poorer outcomes are seen in un-booked than booked patients.² In low- and middle-income countries, less than half of all pregnant women have a minimum of four antenatal care visits.³

Since an estimated 90% of maternal deaths can be prevented with timely medical intervention, ensuring quick access to appropriate services when obstetric emergencies arise is one of the most important aspects of safe motherhood in developing countries.⁴

Maternal and child healthcare is one of the eight basic components of primary healthcare (PHC) in the Declaration of Alma-Ata. The Child Survival and Safe Motherhood, now a component of Reproductive and Child Health Programme, is initiated to achieve a substantial improvement in the health status of women and children in India.⁵ Understanding of the knowledge and practices of the community regarding maternity care during pregnancy, delivery and postnatal period is required for program implementation.⁶ The following essential services should be provided by PHCs - a) Antenatal care, b) Intra-natal care: (24-hour delivery services both normal and assisted) c) Proficient in identification and basic first aid treatment for PPH, eclampsia, sepsis and prompt referral, d) Postnatal Care, e) New Born care

BEmONC: Components of Basic Emergency Obstetric Neonatal Care include:

Intravenous (IV) / Intramuscular (IM) antibiotics, IV/IM uterotonics, IV/IM anticonvulsants, Manual removal of placenta, Assisted vaginal delivery, Removal of retained products

The objective of this study to assess the maternal and new born services in Primary health centres of Kurnool district.

MATERIAL AND METHODS

This study is a facility based cross sectional study carried out from November 2014 - May 2015 in administrative limits of Kurnool district. Kurnool district is divided into Kurnool, Adoni and Nandyal revenue divisions. Study was conducted in 21, 24x7 PHCs 7 PHCs from each revenue division. There are total 83 PHCs in the Kurnool district, among them 40 are 24x7 PHCs distributed among 3 revenue divisions (In Kurnool division 11 PHCs, in Adoni division 14 PHCs, in Nandyal division 15 PHCs. Among forty, 24x7 PHCs 21 PHCs were selected by stratified random sampling and 7 PHCs from each division (strata) were selected by simple random sampling. **Inclusion criteria:** 24x7 PHCs where deliveries were being conducted. **Exclusion Criteria:** 24x7 PHCs where deliveries were not being conducted. A pilot study was conducted in Kallur PHC with the objective of standardizing the questionnaire and to know the feasibility of study. The study was taken up after the approval of the Ethical committee of the Kurnool medical college, Kurnool. Before the study permission was obtained from DM&HO, Kurnool. During the study, purpose of the study was explained to all medical officers and informed verbal consent was taken. Before the visit to PHC, medical officer of respective PHC was contacted and informed about the visit and medical officer was requested to gather staff nurses of that PHC. Each PHC was visited in person by investigator and standards were observed and medical officers and staff nurses were interviewed using a pretested, semi structured questionnaire. Questionnaire is attempted to assess the standards of labour room of that PHC by obtaining information about following standards Services-BEmONC services, antenatal services, intranatal services at 4 stages of labour, postnatal services, newborn services. **Statistical analysis:** Collected data was entered in Microsoft excel numbers and Percentages were calculated for qualitative data.

RESULTS

There were 21, 24x7 PHCs included in the study (7 PHCs from each revenue division). It was observed from the table 1 that, in all PHCs health personnel were practicing administration of parenteral antibiotics, uterotonic drugs, performing manual removal of placenta, in 16/21(76.19%) PHCs health personnel were performing neonatal resuscitation, in 4/21(19.04%) PHCs health personnel were practicing administration anticonvulsants and in 1/21 (4.76%) PHCs health personnel were performing removal of retained products and performing assisted deliveries.

Table 1: Distribution of PHCs according to availability of BEmONC services

S. No	Services	No. of PHCs	Percentage
1	Administration of parenteral antibiotics	21	100
2	Administration of uterotonic drugs*	21	100
3	Administration of anticonvulsants†	4	19.04
4	Manual removal of placenta	21	100
5	Removal of retained products‡	1	4.76
6	Performing assisted delivery‡	1	4.76
7	Perform neonatal resuscitation	16	76.19

*Uterotonic drugs- IV Oxytocin

†Anticonvulsants- Magnesium sulphate

‡Manual Vacuum Extraction, Dilatation and Curettage

§Vacuum extraction, forceps delivery

Table 2: Antenatal services provided in PHCs

S. No	Services	No. of PHCs	Percentage
1	Early registration	21	100
2	MCP card	21	100
3	Blood pressure, weight, height measurement	21	100
4	Fundal height examination	21	100
5	Foetal lie & FHS identification	21	100
6	Laboratory services	21	100
7	Birth preparedness	18	85.71
8	Identification of FRU	21	100
9	Advice on diet & rest	21	100
10	Referral of high risk pregnancies	21	100

It was observed from the table 2 that, all PHCs were providing antenatal services i.e. early registration, provision of MCP card, Blood Pressure, weight and height measurement, fundal height examination, FHS and fetal lie identification, laboratory services, identification of FRU, advice on diet and rest, referral of high risk pregnancies. Most of PHCs (85.71%) were providing birth preparedness services.

Table 3: Intranatal services provided in PHC during 1st stage of labour

S. No	Services	No. of PHCs	Percentage
1	Supportive care	11	52.38
2	Monitoring uterine contractions, FHR	15	71.42
3	Monitoring cervical dilatation & vitals	15	71.42
4	Noting time of rupture of membranes	9	42.58
5	Noting colour of amniotic fluid	15	71.42

It was observed from the table 3 that, in 15/21(71.42%) PHCs, health personnel were practicing monitoring uterine contractions, FHR, cervical dilatation, noting colour of amniotic fluid. In 11/21(52.38%) PHCs, health personnel were providing supportive care and in 9/21(42.58%) PHCs health personnel were noting time of rupture of membranes.

Table 4: Intranatal services provided in PHC during 2nd stage of labour

S. No	Services	No. of PHCs	Percentage
1	Asepsis	21	100
2	Episiotomy	21	100
3	Support to the perineum	21	100
4	Delivery of head	21	100
5	Checking Position of umbilical cord	21	100
6	Delivery of shoulders & other body parts	21	100
7	Noting time of delivery	21	100

It was observed from the table 4 that, in all PHCs health personnel were providing intra natal services i.e. episiotomy service, support to the perineum, delivery of head, checking position of umbilical cord, delivery of shoulders & other body parts, noting the time of delivery and maintaining asepsis during the delivery.

Table 5: Intranatal services provided in PHC during 3rd stage of labour

S. No	Services	No. of PHCs	Percentage
1	Administration of uterotonic drug	21	100
2	Controlled Cord Traction	21	100
3	Uterine Massage	21	100
4	Examination of perineum & vagina for tears	21	100

From the table 5 it was observed that, in all PHCs, health personnel were providing following intra natal services during 3rd stage of labour i.e. administration of uterotonic drugs, Controlled Cord Traction, Uterine massage and examination of perineum and vagina for tears.

Table 6: Intranatal services provided in PHC during 4th stage of labour

S. No	Services	No. of PHCs	Percentage
1	Check for vaginal bleeding	21	100
2	Check for uterine behavior	21	100
3	Check vitals of mother	21	100
4	Providing warmth	21	100
5	Initiation of breast feeding	21	100

From the table 6 it was observed that, in all PHCs, health personnel were providing intra natal services during 4th stage of labour i.e. checking for vaginal bleeding,

uterine behaviour, vitals of mother, providing warmth and initiation of breast feeding.

Table 7: Essential newborn care services provided in PHC

S. No	Services	No. of PHCs	Percentage
1	Maintenance of body temperature	21	100
2	Initiation of breast feeding	21	100
3	Care to skin and eyes	21	100
4	Care of cord	21	100
5	Resuscitation services	16	76.19
6	Danger signs identification & Referral services	21	100
7	Immunization at birth	21	100

It was observed from the table 7 that, in all PHCs, health personnel were providing newborn care services i.e. maintenance of body temperature, initiation of breast feeding, care of cord, Danger signs identification & Referral services and Immunization at birth. In 16/21(76.19%) PHCs, health personnel were providing resuscitation services. Other PHCs were referring the newborns to FRUs after following initial steps of resuscitation i. e up to stimulating, because of non-availability of oxygen cylinders.

Table 8: Postnatal services provided in PHC to mother

S. No	Services	No. of PHCs	Percentage
1	Advice regarding hygiene	21	100
2	Advice regarding nutrition	21	100
3	Advice regarding contraception	18	85.71
4	Registration of birth	21	100
5	Danger signs identification & Referral services to mother	21	100
6	Advice regarding postnatal visits	21	100

From the table 8 it was observed that, in all PHCs, health personnel were providing postnatal services to mother i.e. advice regarding hygiene, nutrition, registration of birth, identification of danger signs & referral services and advice regarding post natal visits by peripheral health workers. In 18/21(85.71%) PHCs, health personnel were practicing advice regarding contraception.

It was observed from the table 9 that, in all PHCs, health personnel were providing post natal services to newborn i.e. asepsis, advice to mother regarding KMC & thermal comfort, examination of umbilicus, eyes, skin, and identification of danger signs & Referral services. In 16/21(76.19%) PHCs health personnel were ensuring good suckling practices.

Table 9: Postnatal services provided in PHC to newborn

S. No	Services	No. of PHCs	Percentage
1	Asepsis	21	100
2	Advice regarding KMC & thermal comfort	21	100
3	Examination of umbilicus, eyes, skin	21	100
4	Ensuring good suckling	16	76.19
5	Danger signs identification & Referral services of new born	21	100

DISCUSSION

BEmONC Services:

It was observed from this study that, in 21/21 (100%) PHCs, health personnel were practicing administration of parenteral antibiotics, uterotonic drugs, performing manual removal of placenta, in 16/21(76.19%) PHCs health personnel were performing neonatal resuscitation, in 4/21(19.04%) PHCs health personnel were practicing administration anticonvulsants and in 1/21 (4.76%) PHCs health personnel were performing removal of retained products and performing assisted deliveries. Although anticonvulsants were available at 16/21(76.19%) PHCs but administration of anticonvulsants were not practicing and the mothers were referred to FRUs.

Antenatal Services:

It was observed from present study that, 21/21(100%) PHCs were providing antenatal services i. e early registration, provision of MCP card, Blood Pressure monitoring, weight and height measurement, fundal height examination, FHS and fetal lie identification, laboratory services, identification of FRU, advice on diet and rest, referral of high risk pregnancies. 18/21(85.71%) PHCs were providing birth preparedness services. Similar findings were observed in a study conducted by Devika Biswas et al which shows that, 5/5 PHCs were providing antenatal care.⁷ Similar findings were observed in a study conducted by S.K.Ray et al which shows that, in 100% PHCs there was availability of antenatal care.⁸

According to DLHS 4 report of Kurnool district, pregnant women who received any antenatal check-up were 95.8%, pregnant women who had antenatal check-up in first trimester were 69.1%, pregnant women who had three or more ANC visits were 74.8%, pregnant women who had at least one tetanus toxoid injection were 87.5%, Pregnant women whose Blood Pressure (BP) taken were 85.6%, Pregnant women whose abdomen examined were 72.5%, Pregnant women who consumed 100 or more IFA Tablets/Syrup equivalent were 38.1%, Pregnant women who had full antenatal care were 30.4%.⁹

According to DLHS 4 report of Andhra Pradesh, pregnant women who received any antenatal check-up were 96.9%, pregnant women who had antenatal check-up in first trimester were 77.8%, pregnant women who had

three or more ANC visits were 84.3%, pregnant women who had at least one tetanus toxoid injection were 92.5%, Pregnant women whose Blood Pressure taken were 87.9%, Pregnant women whose abdomen examined were 71.0%, Pregnant women who consumed 100 or more IFA Tablets/Syrup equivalent were 47.5%, Pregnant women who had full antenatal care were 42.5%.⁹

Intranatal Services:

It was observed from this study that, in 15/21(71.42%) PHCs, health personnel were practicing intra natal services for 1st stage of labour i.e. monitoring uterine contractions, FHR, cervical dilatation, noting colour of amniotic fluid. In 11/21(52.38%) PHCs, health personnel were providing supportive care and in 9/21(42.58%) PHCs health personnel were noting time of rupture of membranes.

It was observed from this study that, in 21/21(100%) PHCs health personnel were practicing intra natal services for 2nd stage of labour i.e. episiotomy service, support to the perineum, delivery of head, checking position of umbilical cord, delivery of shoulders & other body parts, noting the time of delivery and maintaining asepsis during the delivery. From the current study it was observed that, in 21/21(100%) PHCs, health personnel were providing following intra natal services during 3rd stage of labour i.e. administration of uterotonic drugs, Controlled Cord Traction, Uterine massage and examination of perineum and vagina for tears.

From the present study it was observed that, in 21/21(100%) of PHCs, health personnel were providing intra natal services during 4th stage of labour i.e. checking for vaginal bleeding, uterine behaviour, vitals of mother, providing warmth and initiation of breast feeding.

In a study conducted by Devika Biswas et al it was observed that, 5/5 PHCs were providing intranatal care.⁷ According to DLHS 4 report of Kurnool district 75.7% deliveries were institutional deliveries, Delivery attended by skilled health personnel were 89.5%, Out of pocket expenditure per delivery in public health facility were 4.0%.⁹

According to DLHS 4 report of Andhra Pradesh, 88.5% deliveries were institutional deliveries, Delivery attended by skilled health personnel were 93.8%, Out of pocket expenditure per delivery in public health facility were 3.3%.⁹

Newborn care services:

It was observed from current study that, in 21/21(100%) PHCs, health personnel were providing newborn care services i.e. maintenance of body temperature, initiation of breast feeding within 1hour after birth, care of cord, Danger signs identification & referral services and immunization at birth. In 16/21(76.19%)

PHCs, health personnel were providing resuscitation services. Other PHCs were referring the newborns to FRUs after following initial steps of resuscitation i.e. up to stimulating, because of non availability of oxygen cylinders. In a study conducted by Devika Biswas et al it was observed that, 5/5 PHCs were providing newborn care.⁷

In a study conducted by N.Khanam et al it was observed that, in 16.57% PHCs there was recording of pulse and temperature in newborns, 45.35% PHCs there was recording of weight in newborns, 16.08%, 14.63%, 6.34% and 91.17% PHCs there was provision of examination of eyes, examination of skin, examination of umbilicus and provision of zero dose immunization respectively to newborns.¹⁰

According to DLHS 4 report of Kurnool district PHC, and Andhrapradeshs having new born care services on 24 X 7 hours basis were 86.7% and 92.6% respectively.⁹

Post natal services to mother:

From the present study it was observed that, in 21/21(100%) PHCs, health personnel were providing post natal services to mother i.e. advice regarding hygiene, nutrition, registration of birth, identification of danger signs & referral services and advice regarding post natal visits by peripheral health workers. In 18/21(85.71%) PHCs, health personnel were practicing advice regarding contraception.

Similar findings were observed in a study conducted by Devika Biswas et al which shows that, 5/5 PHCs were providing postnatal care.⁷ Similar findings were observed in a study conducted by S.K.Ray et al which shows that, there was 100% availability of post natal services and 5.78% PHCs health personnel were advising regarding hygiene.⁸

According to DLHS 4 report of Kurnool district, PHCs having referral services for pregnancies/delivery on 24 X 7 hours basis were 85.7%, Percentage of Women who had any delivery complication were 16.1% and Percentage of Women who had any post delivery complication were 9.9%.⁹

According to DLHS 4 report of Andhra Pradesh, PHCs having referral services for pregnancies/delivery on 24 X 7 hours basis were 76.7%, Percentage of Women who had any delivery complication were 19.9% and Percentage of Women who had any post delivery complication were 15.8%.⁹

Post natal services to newborn:

It was observed from this study that, in 21/21(100%) PHCs, health personnel were providing post natal services to newborn i.e. a sepsis, advice to mother regarding KMC & thermal comfort, examination of umbilicus, eyes, skin, and identification of danger signs &

Referral services. In 16/21(76.19%) PHCs health personnel were ensuring good suckling practices. In a study conducted by N.Khanam et al it was observed that, in 27.8% PHCs there was provision for keeping the baby warm.¹⁰

Conclusions: Antenatal, intranatal, postnatal and newborn services were adequate in most of the PHCs.

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