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APPENDICES

Appendix A

Data Collecting Instrument

Questionnaire : Risk Factor associated with birth asphyxia in newborn Assessment

Part 1 Maternal Personal Data

	Code
1. Age Years	a01 []
2. Education level	a02 []
<input type="checkbox"/> 1. Primary <input type="checkbox"/> 2. Secondary / High School <input type="checkbox"/> 3. Diploma or equivalent <input type="checkbox"/> 4. Bachelor degree or equivalent <input type="checkbox"/> 5. Higher than Bachelor degree <input type="checkbox"/> 6. No education	
3. Occupation	a03 []
<input type="checkbox"/> 1. Government Service / State Enterprise <input type="checkbox"/> 2. Merchandise <input type="checkbox"/> 3. Agriculture <input type="checkbox"/> 4. Employee <input type="checkbox"/> 5. Housewife <input type="checkbox"/> 6. Student	
4. Income Bath/month	a04 []

Part 2 : Maternal Factor Data

- | | |
|---|------------|
| 1. 1. Number of parity (having given birth) | b01 [] |
| <input type="checkbox"/> 1. Nulliparity (0) | |
| <input type="checkbox"/> 2. Multiparity (2-4) | |
| <input type="checkbox"/> 3. Grand multiparity (> 4) | |
| 2. Anaemia in pregnancy | b02 [] |
| <input type="checkbox"/> 1. Yes | |
| <input type="checkbox"/> 2. No | |
| 3. Bleeding prior to delivery (Antenatal Haemorrhage) | b03 [] |
| <input type="checkbox"/> 1. Yes | |
| <input type="checkbox"/> 2. No | |
| 4. High blood pressure (Hypertensive disorder) during pregnancy | b04 [] |
| <input type="checkbox"/> 1. Yes | |
| <input type="checkbox"/> 2. No | |
| 5. Preterm rupture of membrane Hours | b05 [] |
| 6. Diabetes | b06 [] |
| <input type="checkbox"/> 1. Yes | |
| <input type="checkbox"/> 2. No | |
| 7. Cardiovascular Disease | b07 [] |
| <input type="checkbox"/> 1. Yes | |
| <input type="checkbox"/> 2. No | |

Part 3 : Fetal Factor Data

- | | |
|--|------------|
| 1. Gestational Age weeks | c01 [] |
| 2. Aspects of Amniotic Fluid | c02 [] |
| <input type="checkbox"/> 1. Clear | |
| <input type="checkbox"/> 2. Mild meconium stain | |
| <input type="checkbox"/> 3. Thick meconium stain | |
| 3. Fetal Presentation | c03 [] |
| <input type="checkbox"/> 1. Head / Normal presentation | |
| <input type="checkbox"/> 2. Breech Presentation | |
| <input type="checkbox"/> 3. Others | |

4. Newborn Birth Weight Grams c04 []
5. Apgar Score at 1 minute score c05 []

Part 4: Perinatal Factor Data

1. First stage of delivery mins. d01 []
2. Second stage of delivery mins d02 []
3. Route of delivery d03 []
- 1. Normal delivery
 - 2. Vacuum Extraction
 - 3. Forceps Extraction
 - 4. Breech Delivery
 - 5. Caesarian Section

Part 5 : Maternal and Antenatal Care Service Factor Data

1. Essential Antenatal Visit e01 []
- 1. Null
 - 2. Complete as required
 - 3. Incomplete as required
2. Narcotic Drug Intake (Petidine) e02 []
- 1. Yes Prior to delivery ^{Pet} hours
 - 2. No
3. Oxytocin Induction e03 []
- 1. Yes Prior to delivery ^{Oct} hours
 - 2. No
4. Time of birth e04 []
- 1. Morning Shift between 08.31 – 16.30 hr.
 - 2. Evening Shift between 16.31 – 00.30 hr.
 - 3. Night Shift between 00.31 – 08.30 hr.

Appendix B

Neonatal Personnel Interview

Question for the interview

A. Antenatal Care Unit

1. Are there all essential standards for antenatal care service provided? And how?
 - Identification of possible risk factor at initial visit
 - A minimum of four antenatal visits provided
 - Blood test for screening Anemia disorder and Syphilis infection
 - Voluntary blood test for screening HIV infection
 - Breastfeeding Training for pregnant woman
 - At least one time antenatal visit with obstetrician for a normal pregnancy
 - Routine use of the antenatal card/ logbook for all pregnant women
 - Tetanus Toxoid Immunization
 - Iron/ Folic acid Supplementation
2. Is there at least one time antenatal care group training for pregnant women which encourage their spouse or family to participate? And how?

B. Delivery Service Unit

1. Are there all essential standards for delivery service provided? And how?
 - Recording observations on the pantograph
 - Availability of resuscitation equipment
 - Availability of skilled personnel for maternal resuscitation.
 - Expedite Caesarean section or facilitate an immediate referral
 - Efficiency of blood bank or effective networks of blood supply.
 - Ratio of expectant mother to obstetrician and nurse should not less than 1:3

2. Are there all essential standards for newborn care available in the delivery room? And how?
- Newborn temperature control
 - Respiratory monitoring
 - Prevention of infection at birth
 - Eye drop
 - K vitamin supplementation
 - Promote/encourage to have breast feeding in delivery room
 - Provision of basic equipment and skilled attendant for neonatal resuscitation.
 - Appropriate care of newborn with abnormalities.

Appendix C

Birth Asphyxia in newborn Problem Solving Project At Maharaj Nakhon Sri Thammarat Hospital, Background and Rationale

In the past four years of providing antenatal care service by Antenatal Care Unit of Maharaj Nakhon Si Thammarat Hospital, it found that birth asphyxia in newborn remain a crucial problem. Although there has been attempts to improve the service in delivery room according to the standard of Safe Motherhood program, the rate of incidence occurring remain high compared to the criteria indicated by National Health Development Plan Issue 8 and Issue 9.

These criteria indicate that the incidence of birth asphyxia in newborn should be greater than 30:1000 live births. However, during the year 2000, 2001, 2002 and 2003, the incidence of birth asphyxia in newborn was 139, 115, 89, and 86 per 1,000 respectively. As a result, in 2003 the study was conducted in Maharaj Nakhon Si Thammarat Hospital in attempt to investigate what are the factors associated with birth asphyxia in newborn. The finding shows that maternal age, gestational age, fetal presentation, route of delivery, time in second stage of labor and birth weight are closely associated with birth asphyxia in newborn. A close investigation reveals factors, such as, gestational age of less than 37 weeks or more than 42 weeks, more than 1 hour spent in second stage of delivery, incompleteness of minimum of four antenatal care visit and less 2500 gram birth weight or more than 4000g are main risk factor which directly cause birth asphyxia in newborn. Further interview of staffs and information gathered here, it found that the efficiency of work transition between staffs and referral system should be enhanced.

Therefore the researcher and delivery room personnel will take that factor to be a guideline in solving the birth asphyxia in newborn problem at Maharaj Nakhom Si Thammarat hospital. In case the implementation of antenatal care program which in accordance with the problem is available, the level of birth asphyxia in newborn will be lowered as targeted.

Purpose

To lower the incidence of birth asphyxia in newborn at Maharaj Nakorn Si Thammarat not greater than 30 per 1,000 live births in 2005.

Method

1. Inform all responsible personnel in maternal and children health care section both from Maharaj Nakorn Si Thammarat and all health facility network of Maharaj Nakorn Si Thammarat hospital including the community hospital in Nakorn Si Thammarat province to gain the good cooperation in implementing the project
2. Implementing the following projects at Maharaj Nakorn Si Thammarat Hospital
 - Safe Newborn with essential antenatal care program
 - Program of planning for discharging the pregnant women taking narcotic drug during perinatal period.
 - Strengthening referral system for complicated pregnancy program
 - Safe Motherhood and Childhood with skilled attendant at birth program

Place

Delivery / Obstetrics Room, Maharaj Nakhorn Si Thammarat Hospital

Time Period

March 2004-April 2005

Budget

10,000 Bath

Assessment

Periodical follow-up of the progress of each program

Expected results

The incidence of birth asphyxia in newborn at Maharaj Nakorn Si Thammarat can be lowered at most 30 per 1000 live births in 2005

Birth Asphyxia in newborn Problem Solving Project
Delivery Room at Maharaj Nakhorn Si Thammarat Hospital

Safe Newborn with essential antenatal care program

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
<p>General Objective</p> <p>1 To reduce the rate of preterm delivery</p> <p>2. To decrease the rate of newborn with low birth weight (less than 2,500 grams)</p>	<p>Rate of preterm delivery</p> <p>Rate of newborn with low birth weight</p>	<p>Less than 10 %</p> <p>Less than 7 %</p>	<p>- Strengthen the competency and skill in maternal care for the responsible nurse.</p> <p>- Implement an education service of self caring program for the maternal during</p>	<p>March 2004 –September 2004</p>	<p>Equipment 3,000 bath</p>	<p>- Rate of preterm delivery is reduced</p> <p>- Rate of newborn with low birth weight is reduced</p>	<p>Labor Room Supervisor</p>

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
3. To reduce the rate of obstetric instrumental delivery in absence of indicating factor.	Rate of obstetric instrumental delivery in absence of indicating factor.	Less than 20%	pregnancy and delivery period			Rate of obstetric instrumental delivery in absence of indicating factor is reduced - Survey for the knowledge in maternity care of pregnant women - Observe the periodical self-caring in pregnancy of pregnant women.	

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
<p>Specific Objectives</p> <p>1. To educate pregnant women with self caring aspects during pregnancy, delivery and post delivery period</p>	<p>Rate of women who have knowledge in self-caring during pregnancy, delivery and post delivery period</p>	<p>More than 80%</p>	<ul style="list-style-type: none"> - Assign nurse to monitor the behavior of pregnant women in group until delivery - Training the self-caring method for pregnant women in group. - Provide 24 hours phone line for pregnant consultation 				

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
2. Pregnant women can apply the knowledge to look after themselves during pregnancy, delivery and post delivery period	Rate of women who have correct behavior during pregnancy, delivery and post delivery period	More than 80%					

Program of planning for discharging the pregnant women taking narcotic drug during perinatal period

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
<p>Specific Objective To reduce the rate of premature delivery of women who receive narcotic drug</p>	<p>Rate of premature delivery of women who receive narcotic drug</p>	<p>Less than 20%</p>	<ul style="list-style-type: none"> - Implement discharging plan for women who receive narcotic drug - Inform all nurses at labor room to take an action plan accordingly. 	<p>Aprils 2004 – September 2004</p>	<p>Study guide material and leaflet : 2,000 bath</p>	<p>Estimate the gestational age when admitted to delivery room</p>	<p>Profession al Nurse at delivery room</p>

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
<p>Specific Objective Pregnant women can look after themselves against premature delivery after being discharged from hospital</p>			<p>- Assign the nurse at delivery room to monitor and provide essential knowledge and necessary assistance for women before being discharged and also periodical follow up via phone.</p>	<p>Aprils 2004 – September 2004</p>			

Strengthening referral system for complicated pregnancy program

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
<p>General Objective</p> <p>1. To ensure all complicated pregnant women whom cannot be treated by community hospital will have an immediate referral.</p>	<p>- Percentage of complicated pregnant women whom cannot be treated by community hospital will have an immediate referral.</p>	100 %	<p>- Arrange meeting with all involved personnel at community hospitals to establish standard procedure in prognosis of disease and complication in pregnancy in order to determine which case require immediate referral in the absence of obstetrician or physicians</p>	May 2004 – September 2004	1,000 bath	<p>- Initially assessing the condition of pregnant women at first arrive point</p> <p>- Question on the maternal care during the referral process</p> <p>- Examine the referral document</p>	Academic committee of Safe Motherhood Program

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
2. To ensure all complicated pregnant women will get an appropriate and timely care during being referred.	Percentage of complicated pregnant women will get an appropriate and timely care during being referred.	100 %	- Provide training for essential competency and skill in maternal care for nurse who are in char of referral system.				
3. To ensure the information of all transfer maternal is fully completed	Percentage of referral document which is fully completed	100 %	- Establish a common format of referral document for obstetric patient				

Safe Motherhood and Childhood with skilled attendant at birth program

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
<p>General Objective</p> <p>1. To reduce the time taken in 2nd stage of delivery to equal 1 hour or less</p>	Time taken in 2 nd stage of delivery	Less than or equal to 1 hour	<ul style="list-style-type: none"> - Arrange meeting the skilled attendants (obstetrician and nurse) at birth to improve the procedure of maternal resuscitation for prolonged delivery. - Strengthen the competency and skill of all attendants (nurse) at birth 	March 2003	none	<ul style="list-style-type: none"> - The degree of cooperation in solving problems and establish standard procedure from all personnel - Observe the skills and competency of the skilled attendant (nurse) at birth during 2nd stage delivery 	Delivery Room Supervisor
<p>Specific</p> <p>1. To ensure all skilled attendant in second stage of delivery capable of prognosis the cause of a prolonged delivery.</p>	The number of skilled attendant (nurse) who capable of prognosis the cause of prolonged delivery.	100 %					

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
2.To ensure that all skilled attendant (obstetric &nurse) in second stage of delivery follow the standard procedure accordingly	The number of skilled attendant (obstetric & nurse) in second stage of delivery	100 %	<ul style="list-style-type: none"> - Inform to all doctors and nurses involve in 2nd stage of delivery to follow standard procedure. - Disseminate standard procedure to all involed personnel and put it where easily noticeable. 			Observe whether all skilled attendant in 2 nd stage of delivery have followed the prescribe standard procedure	

Objectives	Indicator	Target	Method	Period	Estimate Budget	Assessment	Person in Charge
3. To reduce the rate of obstetric instrumental delivery in absence of indicating factor.	Rate of obstetric instrumental delivery in absence of indicating factor.	Less than 20%	- Assign nurse to monitor the behavior of pregnant women in group until delivery			- observe how well the pregnant women apply knowledge during delivery and post delivery period	

BIOGRAPHY

Mrs. Kalaya Maneechote was born on 3 April, 1958 in Nakhon Si Thammarat province. She completed the secondary education at Kalayaneesrithammarat school in 1976 and then further studied her bachelor degree in nursing and advanced midwifery from Songkhla Nursing College. She first started her profession as a professional nurse level 3 at Maharat Nakhon Si Thammarat hospital since 1 April, 1982. Currently, she is in the position of professional nurse level 7, Head of Obstetric and Gynecology at Maharaj Nakhon Si Thammarat, Nakhon Si Thammarat province.