



MotherCare™

GUATEMALA TRIP REPORT #6

March 6-23, 1991

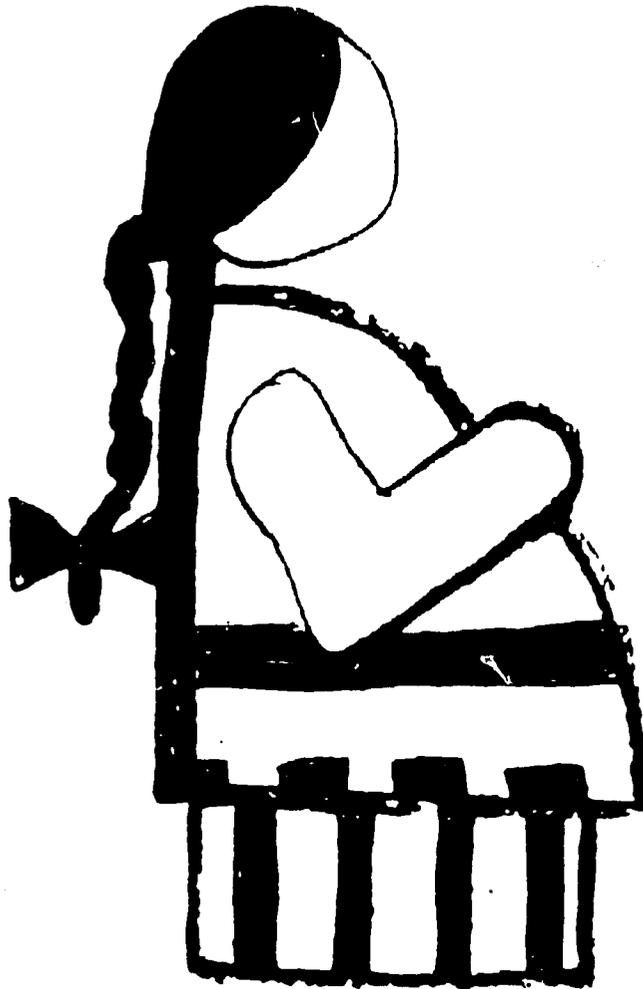
Diana R. Beck, MotherCare/American College of Nurse-Midwives
Pamela J. Putney, MotherCare/John Snow, Inc. Consultant

PD-ABE-938

ISA 79990

**MOTHERCARE GUATEMALA
QUETZALTENANGO MATERNAL
AND NEONATAL HEALTH PROJECT
GUATEMALA TRIP REPORT**

MARCH 6-23, 1991



*Diana R. Beck, MotherCare Consultant, ACNM
Pamela J. Putney, MotherCare Consultant*

**Prepared for AID, Contract #DPE-5966-Z-00-8083-00
Project #936-5966**

**John Snow, Inc., 1100 Wilson Blvd, 9th Floor, Arlington, VA 22209
Tel.(703)528-7474*Fax(703)528-7480**

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

ACRONYMS

I. EXECUTIVE SUMMARY

II. BACKGROUND 1

- A. Guatemala 1
- B. Project History 1
- C. Scope of Work 2

III. WORKSHOPS 3

- A. Objectives and Schedules 3
- B. Participants 5
- C. Methodology and Content 5
- D. Achievements 6
- E. Follow-up Activities 7

IV. REVISED WORKPLAN 8

V. JHPIEGO VISIT 9

VI. OBSERVATIONS 10

- A. Project Accomplishments 10
- B. Lessons Learned 11
- C. Project Constraints 13

VII. RECOMMENDATIONS 13

APPENDICES

- A. LIST OF CONTACTS**
- B. SCOPE OF WORK**
- C. PARTICIPANT LIST**
- D. WORKSHOP SCHEDULES AND OBJECTIVES**
- E. MATERNAL AND NEONATAL MORTALITY STUDIES**
- F. PRE AND POST TESTS AND EVALUATION FORM**
- G. REVISED WORKPLAN**
- H. DRAFT REFERRAL FORM AND HANDOUT**
- I. MOH CLINICAL HISTORY FORM**
- J. CONCLUSIONS FROM HOSPITAL AND DISTRICT MEETING**
- K. WORKSHOP HANDOUTS**

ACKNOWLEDGEMENTS

The consultants would like to express their sincere appreciation to Sandy Callier, ROCAP/USAID, and Jayne Lyons, USAID, Dr. Barbara Schieber, Dr. Junio Robles and Dr. Alfred Bartlett of INCAP, Dr. Mario Mejia, Dr. Raul Najarro, Lic. Clara Luz Barrios, and the Xela District health staff for their support in carrying out our work.

ACRONYMS

ACNM	<i>American College of Nurse Midwives</i>
AID	<i>Agency for International Development</i>
APROFAM	<i>Guatemalan Association for Family Well Being</i>
CLAP	<i>Latin American Center for Perinatology</i>
INCAP	<i>Nutrition Institute for Central America and Panama</i>
JHPIEGO	<i>Johns Hopkins Program in Reproductive Health</i>
JSI	<i>John Snow, Inc.</i>
MCH	<i>Maternal and Child Health</i>
MOH	<i>Ministry of Health</i>
PI	<i>Principal Investigator</i>
ROCAP	<i>AID Regional Office for Central America and Panama</i>
TBA	<i>Traditional Birth Attendant</i>
USAID	<i>United States Agency for International Development</i>

I. EXECUTIVE SUMMARY

In August of 1990, the JSI MotherCare Project and INCAP signed an agreement to implement a three year project in four districts of the Quetzaltenango (Xela) Health Area of Guatemala. The purpose of the project is to reduce maternal and neonatal mortality rates by using a case management, rather than the traditional WHO "risk-based approach to prenatal, obstetric and postpartum care.

The purpose of the visit by Diana Beck, ACNM staff member and MotherCare consultant, and Pamela Putney, MotherCare consultant and team leader, was to work with Dr. Barbara Schieber, PI and other INCAP staff members to collaborate with the Xela District Health Staff to: conduct a training workshop to upgrade the knowledge level of the district health staff from five districts in the detection, management and referral of high risk obstetric and neonatal cases, review and develop norms for the care of high risk cases and facilitate discussions with District Health Teams and the Xela Hospital Administration and staff regarding the development of a referral and counter-referral system for high risk patients.

Two workshops were planned and conducted. The first workshop was a two day planning session and the second was a five day training course, which included a meeting with Xela Hospital staff. Although the workshop was successful in meeting important goals, a number of lessons were learned (see section VI.B, Lessons Learned). Important follow-up activities from the workshops include: follow-up meetings between the hospital and district staff and continued training and reinforcement of the workshop content (the detection, management and referral of high risk obstetrical and neonatal cases).

In addition to the workshops, the project workplan was revised (see Appendix G) in collaboration with the PI and Dr. Alfred Bartlet, Co-Principal Investigation and the consultants participated in a visit to Xela by the Director of JHPIEGO, Dr. Noel MacIntosh, his Associate, Dr. Laurel Cappa, Jayne Lyons, USAID/Guatemala Population Officer, and Dr. Santiso, Director of APROFAM.

The project appears to have made significant accomplishments to date (see section VI.A, Project Accomplishments), however, the project is at a critical phase and will need extensive technical assistance during the key intervention phase if project goals are to be met.

II. BACKGROUND

A. Guatemala

The estimated maternal mortality rate for Guatemala is 100 to 144 per 100,000 live births. The estimated infant mortality rate is 73.4 per 1,000 live births. Guatemala has the third highest maternal and infant mortality rate in the hemisphere, after Haiti and Bolivia.

The TBA is the major provider of health care for Guatemalan women and the majority of women give birth at home with a TBA in attendance. An estimated 20,000 TBAs attend 60% to 70% of all births, with this percentage rising to over 90% in the rural highland areas.

Guatemala has the institutional capacity to provide services to only 20% of all women giving birth. Traditionally, TBAs have received little recognition or support for their important role within the health care system. Although TBA training has been carried out in Guatemala for over 30 years, the training up to this point has been largely based on a Western, ethnocentric, urban, hospital model and has had little impact on reducing maternal/infant mortality rates or on resolving the significant cultural, geographic, linguistic, and economic barriers to establishing relationships between the community and the formal health care system.

B. The MotherCare/INCAP Quetzaltenango Maternal and Neonatal Health Project

In August of 1990, with support through buy-ins from USAID/Guatemala and ROCAP, the MotherCare Project and INCAP signed an agreement to implement a three year project in four districts of the Quetzaltenango Health Area of Guatemala. The purpose of the project is to reduce maternal and neonatal mortality rates using a case management approach, rather than the traditional WHO "risk-based" approach to prenatal, obstetric and postpartum care.

The standard WHO Risk Approach focuses on the screening and referral of women determined to be at "high risk" for complications during pregnancy and delivery, using a series of predetermined factors such as grand multiparity (more than 5 previous births), previous still births, and first pregnancies. This model, if applied to all Guatemalan women, would result in the majority of pregnant women being referred for institutional birth. Since the maximum capacity of the health care system to attend only 20% of all deliveries has already been reached, the WHO approach is not appropriate, nor feasible for Guatemala for the foreseeable future.

The case management approach being tested by INCAP in Quetzaltenango is more individualized than the WHO model and relies on the identification, referral and proper institutional management of clearly defined high risk "events" (eg; malpresentation, high blood pressure) as they occur, rather than on broader and less sensitive predisposing factors such as age and parity.

The project focuses on the TBAs and the families they serve, as well as on improving their interactions with and the responsiveness of the formal health care delivery system when problems arise. By improving the early recognition, referral and treatment of life-threatening problems as they occur (by both the TBA and the district and hospital health care staff), the project expects to reduce maternal and infant mortality rates by a significant margin.

The key project interventions include:

- 1. A retrospective case-controlled study of intrapartum and neonatal deaths in the community and hospital.**
- 2. A study of all maternal deaths in the entire department of Quetzaltenango.**
- 3. A study of the reasons for compliance and non-compliance with TBA referrals to the hospital.**
- 4. Training approximately 400 TBAs to recognize and refer the major conditions associated with maternal and neonatal mortality. A cadre of TBA trainers will be trained using carefully chosen district health personnel.**
- 5. Improving the standard of care for high risk conditions associated with maternal and neonatal mortality at the health post, health center and hospital levels. Four districts will participate in the project, in addition to the Xela Hospital. This includes the development and implementation of a system of norms and a new referral form for referrals and counter referrals between the TBA, health post, health center and hospital.**

C. Scope of Work

The purpose of the visit by Diana Beck, MotherCare consultant, and Pamela Putney, MotherCare consultant and team leader, was to work with Dr. Barbara Schieber, INCAP Principal Investigator, Dr. Alfred Bartlett, Co-Principal Investigator and Advisor to INCAP, Dr. Raul Najarro and Dr. Mario Mejia, MotherCare consultants, and the Quetzaltenango Health Area staff to:

1. **Review policies and norms for the management of high risk pregnancies and neonates by health center and health post staff.**
2. **Prepare revised norms for the care of high risk women and newborns by District Health Teams.**
3. **Develop and help conduct a training workshop to upgrade the knowledge of the District Health Teams in identifying and managing high risk women and newborns.**
4. **Facilitate discussions with District Health Teams and the Xela Hospital Administration staff regarding the development of a referral and counter-referral system for high risk women and newborns.**

(For a complete copy of the Scope of Work see Appendix B)

All of the above was completed, with the exception of the completion of revised norms. The norms could not be finalized due to time constraints. These will be completed at a latter date by the Principal Investigator and the District Health Teams, in collaboration with Dr. Mejia and Dr. Najarro.

In addition to the written Scope of Work, the consultants reviewed project progress to date, identified future technical assistance needs and potential constraints, and revised the work plan in collaboration with Dr. Schieber and Dr. Bartlett.

III. WORKSHOPS

Two workshops were planned and conducted. The first workshop was a two day planning session, the purpose of which was to prepare the five District Health Teams and develop the content and methodology for the second workshop. The second workshop was a five day training session, during which time the processes for developing the norms and a referral and counter referral system were initiated, as well as improving the knowledge level of the District Health staff in high risk screening and management for pregnant women and newborns.

A. Objectives and Schedules

The objectives for workshop I were to:

1. **Present, discuss and analyze the findings from the INCAP Quetzaltenango maternal, perinatal and neonatal morbidity studies. (A workshop handout summarizing the results of the studies can be found in Appendix E)**

- 2. Determine the priority district health staff training needs based on the priority problems identified in the studies.**
- 3. Determine the priority district health staff training needs based on an analysis of their experiences and the reality of the situation in the district health centers and health posts.**
- 4. Develop the content and methodology for the second workshop.**
- 5. Discuss and determine the methodology for developing the norms, indicators, revision of the clinical history form and a system for the referral and counter-referral of high risk obstetrical and neonatal cases.**
- 6. Reinforce the importance of each health staff's individual role in improving maternal and neonatal outcomes.**

The objectives for Workshop II were to:

- 1. Increase the knowledge base of the district health staff in the detection, management and referral of high risk obstetrical and neonatal cases.**
- 2. Develop and discuss norms for the management of high risk obstetrical and neonatal cases.**
- 3. Develop and discuss indicators for monitoring and evaluating the process and impact of project interventions in the community.**
- 4. Develop and discuss a system for the referral and counter-referral of high risk obstetrical and neonatal patients in collaboration with representatives from Xela Hospital.**
- 5. Develop a plan for further training of district health staff in the detection, management and referral of high risk obstetrical and neonatal cases.**
- 6. Discuss and analyze the new MOH obstetrical/neonatal clinic form.**

(A copy of the workshops' objectives and schedules can be found in Appendix D).

B. Participants

The participants for both workshops included Lic. Clara Luz Barrios, Jefedura de Area in Nursing, and Dr. Raul Chinchilla, Jefedura de Area, and the entire health staff from the districts of San Martin Sacatepequez, San Juan Ostuncalco, Palestina de los Altos, Cabrican and San Carlos Sija. The health area staff members consisted of physicians, graduate and auxiliary nurses, rural health technicians and social workers. A representative of APROFAM (a health technician) was a full participant during the second workshop.

(For a complete list of participants see Appendix C).

C. Methodology and Content

Workshop I was held at the Catholic Training Center in Quetzaltenango. Workshop II was held at the Hotel del Campo, near the INCAP Xela office. The principal workshop trainers were: Dr. Barbara Schieber, Dr. Alfred Bartlett, Dr. Mario Mejia, Dr. Raul Najarro, Dr. Junio Robles. In addition, a organizational development specialist from Guatemala City led a half-day session during the first workshop. The consultants provided input as needed throughout the two workshops.

The methodologies used during the workshop included: role playing, lectures with questions and answers, work groups (divided into districts and in combination with one representative from each district), and presentations followed by discussion.

The consultants worked extensively with all the presenters in an effort to insure consistency in the workshop methodology and content. Pre and post tests and a workshop evaluation form were used during the second workshop. (Copies of the pre and post tests and evaluation form can be found in Appendix F)

The workshop content included:

1. High risk screening, management and referral/counter-referral for the following priority conditions:

Maternal

- a. High blood pressure/pre-eclampsia.
- b. Premature rupture of the membranes.
- c. Prolonged labor.

- d. **Bleeding in pregnancy (placenta previa and abruption).**
- e. **Multiple and malpresentation (breech, twins, transverse).**
- f. **Bleeding/hemorrhage postpartum, including retained placenta.**
- g. **Postpartum infection (uterine).**
- h. **Premature labor.**

Neonatal

- a. **Sepsis.**
 - b. **Low Birth Weight/Prematurity.**
 - c. **Asphixia.**
2. **Health provider attitudes toward patients and the community and the role of each professional in developing strong and positive relationships with each patient and the community as a whole.**

(A copy of the workshop handouts and training materials can be found in Appendix K).

D. Workshop Achievements

The workshops resulted in:

1. **The development of a new relationship between the hospital and the district health staff (see Appendix J for conclusions of the meeting between the hospital and districts during the workshop).**
2. **The completion of a draft referral form and the ground work was laid for the completion of a system for referral and counter-referral of high risk obstetrical and neonatal patients. (See Appendix H for a copy of the referral form and workshop handout)**
3. **A review of the key clinical knowledge required to detect, manage and refer high risk obstetrical and neonatal cases. This will be reinforced during workshop follow-up activities. (See following section)**

4. **A review of the correct completion and use of the MOH's new Ob/Neonatal clinical history form and the beginning of the development of norms for the district health staff. (See Appendix I for a copy of the clinical history form).**
5. **A presentation and exploration of a new way of assessing high risk obstetrical and neonatal problems (a new way of "thinking" was presented during the workshops). This process will continue during the workshop follow-up activities.**
6. **An exploration of the individual health care provider's role/importance in improving obstetrical and neonatal outcomes and the affect of providers' attitudes on patient clinic attendance and compliance with referrals/advice.**

Unfortunately, sufficient time to grade the post tests was not available during the workshops. Therefore the change in knowledge acquired by the health care staff was unavailable for this report.

E. Follow-up Activities

Important follow-up activities from the workshop include:

1. **Follow-up meetings between representatives from the hospital and district health teams to continue the development of an effective referral and counter-referral system for high risk obstetrical and neonatal patients.**
2. **Continued training of the district health staff in the detection, management and appropriate referral of high risk obstetrical and neonatal cases.**

A follow-up meeting between the hospital and districts is scheduled for April. It is anticipated that the hospital and districts will continue to meet on a regular basis (every 1-2 months) to discuss referrals and review cases.

Follow-up training for the district health staff will consist of two half days of on-site clinical training to:

1. **Review history taking.**
2. **Discuss case studies (actual or made-up).**
3. **Reinforce workshop content and review the norms.**
4. **Discuss the application of norms and indicators.**

5. **Problem solve.**
6. **Review/teach basic clinical skills including: fundal height, fetal heart tones and Leopold's Maneuvers to determine fetal position and other complications (eg; twins).**

A total of 70 people will be trained, probably in groups of 10 (or less if feasible).

In addition to the on-site clinical training, all district staff will spend one full day at the hospital working in the obstetrical and neonatal units. One half day will be spent in the obstetrical out-patient clinic, with the health staff assisting with/observing deliveries, if possible. The other half day will be spent in the nursery. The hospital portion of the training will be limited to three persons at one time.

IV. REVISED WORKPLAN

The project workplan was revised in collaboration with Dr. Barbara Schieber and Dr. Alfred Bartlett. The revised plan includes: follow-up activities from the workshops, the finalization and publication of the norms (including posters and booklets), the development of indicators to evaluate and monitor project interventions, the development of a curriculum for the TBA trainers, training of trainers, the development of a curriculum for TBA training and TBA training and evaluation.

The core group of TBA trainers will consist of: 5 professional nurses from the districts, at least 5 auxiliary nurses, and possibly the district school nurse. The length of the training will be approximately two weeks, plus supervision during the first TBA workshop.

The content of the training will include:

1. **Types and application of innovative and effective teaching methodologies (stories and role playing).**
2. **The use of appropriate language in the training of non-literate participants.**
3. **The principals of adult learning (how people learn).**
4. **Training content, including rationale for the content chosen.**
5. **Review of the TBA curriculum.**

6. Practice teaching sessions.

A primary goal of the training of trainers will be to develop mutual support systems between the nurses and between the nurses and the TBAs.

The TBA training will consist of groups of 10 to 15 TBAs, using 2 to 3 trainers per course. The length of the initial training will be three days to one week.

(A copy of the revised workplan can be found in Appendix G).

V. JHPIEGO VISIT

At the request of ROCAP and USAID, the consultants participated in the assessment of support for a new type of Obstetrics/Gynecology Residency Program at Xela Hospital. The consultants worked with the PI and Dr. de Leon, the Director of Ob/Gyn at Xela Hospital, to prepare a presentation for Dr. Noel MacIntosh, Director of JHPIEGO, Dr. Laurel Cappa, JHPIEGO staff member, Jayne Lyons, Population Officer/USAID Guatemala, and Dr. Santiso, Director of APROFAM. After the presentation, which took place at the hospital with the participation of the hospital staff and residents, follow-up discussions were held at the INCAP office in Xela.

The hospital is requesting support (\$12,000-15,000 per year) for an innovative type of residency program which would be community, rather than hospital, based. Ob/Gyn residents would spend a significant percentage of their time in the districts with the district health staff and in carrying out community-based activities (eg; with TBAs).

Dr. MacIntosh concluded that although his organization would be willing to provide limited support to the program in the form of textbooks, video equipment, educational videos, and possibly technical assistance in developing the training content of the program, a residency program for Ob/Gyns was not a priority in the overall context of Guatemala's health care needs. Dr. MacIntosh suggested that a six month post graduate training program for general practitioners in reproductive health would be a preferable option.

The hospital plans to continue to seek support for the program through other channels (eg; sponsorship from an Ob/Gyn Department in the United States).

VI. OBSERVATIONS

A. Project Accomplishments to Date

The INCAP/MotherCare Quetzaltenango Maternal and Neonatal Health Project is an ambitious and complex program which is attempting to improve and unify a system which has functioned as isolated components for many years. To date, there have been impressive accomplishments in this difficult area, largely due to the skills of the PI.

The accomplishments include:

- 1. There appears to be significant progress toward changing attitudes of health care providers and administrators in both the districts and the hospital regarding their role in strengthening the relationship between the community and the health care delivery system.**
- 2. The enthusiasm towards the project universally expressed by both health and hospital area administrators and health staff is impressive. It is obvious that the potential for positive impact is seen as a reality and therefore the additional work generated by the project's interventions is supported by health staff and administrators.**
- 3. The project is clearly providing a unique opportunity for a number of Guatemalan health professionals to expand and develop their leadership skills through involvement in the project.**
- 4. The project is acting as a catalyst for unifying the major sectors of the health care delivery system, which up to now have functioned largely in isolation, to the detriment of patient care and decreased effectiveness of the system. This unification and coordination has clearly become not only a goal of the project, but is seen as a major priority by the health care administrators and staff.**
- 5. Important work has begun in implementing standards of care (previously non-existent) and in upgrading the knowledge, attitudes and practices of area health care providers.**
- 6. The project has been responsible for identifying and educating health care professionals regarding the major causes of maternal, perinatal and neonatal mortality in Quetzaltenango. This information has provided the basis for the development of concrete interventions to reduce the high mortality and morbidity rates. This is the first time that a systematic approach to reducing maternal and neonatal mortality, based on operations research, has been implemented in Guatemala.**

7. It appears that major changes have been set in motion, not only between the community and the health system, but also within the health care teams themselves. Training for obstetrical residents is being revised due to project inputs, and major changes are being implemented within the neonatal unit and the hospital wards (eg; birthing practices, care of newborns, sick neonates and increased emphasis on breastfeeding).

B. Lessons Learned from the Workshop

1. Preparation Time

a. Materials

Adequate preparation time for materials development is critical in order to achieve workshop goals. Given the number of participants, the length of the workshops, the introduction of an extensive amount of new and important material, while at the same time trying to achieve changes in attitudes and a systematic management approach (a new way of thinking), much more time should have been allotted for this important element.

b. Methodology

In order to ensure the absorption and retention of key workshop content, the use of a participatory approach throughout workshop sessions is essential. The development of this type of methodology requires significantly more time than was allotted.

c. Atmosphere (workshop environment)

Critical environmental components conducive to enhancing the learning process include:

- Display of relevant educational materials
- Seating arrangements
- Adequate audiovisual support (microphones, well prepared transparencies and slides and appropriate handouts)

d. Consistency of Content and Methodology

The successful implementation of a new system to improve the identification, referral and management of high risk maternal and neonatal cases is based on agreement, understanding and utilization of a standard set of information. Considering the complexity of the issues, the minimal resources available, the diversity of medical management, as well as the differences in management required in rural versus urban areas, achieving consensus on workshop content (the basis of the norms), requires significantly more time and follow-up than was allotted.

e. Ambitious Goals

Three very ambitious goals were trying to be accomplished during the workshops simultaneously. Any one of these goals (the development of norms/standards of care, training and upgrading the obstetrical and neonatal knowledge base of the district health care providers and changing attitudes towards patients and the community) would have been difficult to achieve at one time.

2. Number of Participants

Participatory methodology dictates small groups (a maximum of 20 to 25 people) in order to be effective. This is important to take into account in future workshop design.

3. Insuring Coverage in Districts During Workshop Activities

In planning future workshops, care must be taken to ensure continued health coverage within the districts. In the case of these workshops, all health posts and health centers for the five districts attending the workshops were closed for the duration.

4. Adequate Time For Post Workshop Evaluation and Follow-up

The follow-up activities which workshops of this type necessarily generate require a minimum of 3 working days post-workshop for the persons responsible for conducting them. This helps to ensure maximum effectiveness in achieving workshop goals.

C. Future Project Constraints

- 1. There is a lack of obstetrical experience/expertise on the project team which appears to be having an adverse impact on project activities.**
- 2. The original project design was dependent on Dr. Alfred Bartlett's consistent input. This has not been feasible due to his time constraints and other many responsibilities.**
- 3. Due to a number of factors, the time-frame and level of project inputs originally planned was not realistic, especially with the addition of the surveillance system and operations research studies.**
- 4. A change in INCAP's administrative system has resulted in a significant additional time burden for the PI.**
- 5. The surveillance system (which has proved unworkable), in addition to the extra operations research studies have dramatically increased the workload for the PI.**
- 6. The project needs to receive adequate technical assistance during the key intervention phase (total TA up to this point has been 2 weeks in October of 1990) in order to ensure project success.**
- 7. The project workload requires the full-time presence of the PI in Xela, however, the INCAP administrative requirements dictate that the PI spend 1-2 days per week at INCAP Guatemala. In addition, there is a 7-8 hour round-trip travel time between Xela and Guatemala City.**
- 8. The PI is both the primary technical person, and person overall responsible for the administration of the project.**

VII. RECOMMENDATIONS

- 1. Adequate technical assistance needs to be provided to the project during the critical intervention phase to insure completion of project goals. For the Training of TBA Trainers and the TBA Training (materials and curriculum development, training, and follow-up) a total of 11 weeks for a TBA/Training/Curriculum Development Specialist is recommended. In addition, an IEC/Communications/Training Specialist should be contracted for 3 to 5 weeks to work with the other consultant with the materials development and during the initial training of trainers and TBA workshop sessions.**
- 2. Project priorities need to be clarified (evaluation versus intervention) and project time and resources distributed accordingly.**
- 3. Additional technical assistance should be provided to the project to write-up/distribute project results and for materials development.**

The MotherCare/INCAP Maternal and Neonatal Health Project is an important program which has the potential to develop an important new model for improving maternal and neonatal health care in Latin America, and perhaps the world. The project is at a critical juncture and merits the necessary inputs to ensure project success.

APPENDIX A

LIST OF CONTACTS

USAID/GUATEMALA

Jayne Lyons, Population Officer
Sandra Callier, ROCAP Health and Nutrition Advisor

INCAP

Dr. Juan Riveira, Director, Health and Nutrition Division
Dr. Barbara Schieber, Quetzaltenango Maternal and Neonatal Health Project PI
Dr. Edgar Hidalgo, Quetzaltenango Administrator
Dr. Alfred Bartlett, Advisor to INCAP
Dr. Elizabeth de Bocaletti, Co-Investigator, Santa Maria de Jesus Project
Dr. Junio Robles, Assistant Coordinator, Quetzaltenango Maternal and Neonatal Health Project
Dr. Mario Mejia, INCAP/MotherCare Consultant, Chief of Neonatology Quetzaltenango Hospital
Dr. Raul Najarro, INCAP/MotherCare Consultant, Chief of Ob/Gyn Residency Program, San Juan de Dios Hospital, Guatemala

QUETZALTENANGO HEALTH AREA

Dr. Raul Chinchilla, Jefedura de Area
Lic. Clara Luz Barrios, Jefedura de Area in Nursing

QUETZALTENANGO HOSPITAL

Dr. Heberto de Leon, Chief of Obstetrics and Gynecology
Dr. Victor Rodas, Chief of Pediatrics

OCCIDENTAL GENERAL HOSPITAL

Dr. Oscar Tarrago, Director
Lic. Carmen Matzuy de Robles, Chief of Nursing

APROFAM

Dr. Jorge Solorzano, Coordinator of Medical Education
Dr. Roberto Santiso Galvez, Executive Director

JHPIEGO

Dr. Noel MacIntosh, Director
Dr. Laurel Cappa, Associate

APPENDIX B

SCOPE OF WORK

MS. PAMELA PUTNEY
MS. DIANA BECK
ACTIVITY #302

Overview

The INCAP Quetzaltenango Maternal and Neonatal Health Project will develop an improved case management approach to obstetrical and neonatal care at community, clinic and hospital levels. Project interventions include revision of norms (or standing orders) and retraining of health providers to better identify and respond to "high risk" or emergency situations.

Since Traditional Birth Attendants (TBA) are responsible for delivering over 70% of the births in rural Quetzaltenango, the project is focusing substantial attention on the retraining of this important community health agent. At the same time, norms and forms used at the district and referral hospital levels will also be revised and staff skills will be up-graded based on them.

INCAP and staff of the referral hospital in Quetzaltenango recently started work on the revision and introduction of revised norms and protocols for the care of high risk and emergency situations, both obstetric and neonatal. The consultancies described in this memo address the development of norms and the training of District Health Teams in the four project districts.

Specific Activities

The Consultants will work with the INCAP Principal Investigator, Dr. Barbara Schieber, MotherCare consultant, Dr. Raul Najarro, and Health Area staff in Quetzaltenango to:

1. Review policies and norms for the management of normal and high risk pregnancies and neonates by health center and health post staff at the primary care level;
2. Prepare revised norms for the care of high risk women and newborns by District Health Teams focusing on the following conditions:

Maternal emergencies:

- o bleeding during pregnancy
- o pre-eclampsia (HDP)
- o prolonged labor/obstructed labor
- o malpresentation
- o prolonged (premature) rupture of membranes
- o post-partum hemorrhage
- o retained placenta
- o infection/fever

Neonatal emergencies:

- o prevention of hypothermia
- o resuscitation
- o depressed newborn

- o infection (sepsis/ARI/meningitis)
- o low birth weight (SGA and prematurity)
- o cord care

Contents of prenatal/postnatal care:

- o TT immunization
- o dietary improvement
- o promotion of breastfeeding.

3. Develop and help conduct a training workshop to upgrade the knowledge of District Health Teams focusing on the conditions mentioned above. A training plan will be prepared, including measurable behavioral objectives, a description of training content and activities, and reference materials for training facilitators and participants. The Consultants will help prepare the training plan, identify and brief local resource persons who might be called upon to participate in the training, and work with the counterparts mentioned above to conduct the training.
4. Facilitate discussions with Health Area staff and District Health Teams regarding the creation of an effective referral system and health service indicators and revised forms for routine data collection.

Ms. Putney will act as the team leader based on her earlier involvement with the INCAP project and her experience working with District Health staff. The two consultants will decide between themselves how to divide the scope of work so as to maximize their individual expertise and the limited time available to them. Prior to the consultancy, the INCAP Principal Investigator will set up all introductory appointments, working sessions, and training dates with the District and Health Teams.

Products

The Consultants will prepare a written trip report which will include those items mentioned in the consultant packet plus: 1) revised norms for District Health Teams for the appropriate management of the conditions mentioned above; 2) the training plan and materials for the 3-day training course for District Health Teams; 3) a summary of training results.

A draft of the report should be submitted and discussed with INCAP Investigator's and Quetzaltenango Health Area counterparts prior to the Consultant's departure from Guatemala. The final report will be submitted to MotherCare within ten working days after returning to the U.S. and will be revised, if necessary, and resubmitted no later than two weeks after the receipt of MotherCare's comments.

APPENDIX C

PARTICIPANT LIST

	NOMBRE	DISTRITO
1.	<i>Edgar Cifuentes Galvez Medico Director</i>	<i>C.S.San Carlos Sija</i>
2.	<i>Berna L. Barrios De G. Enf.Profesional Distrito</i>	<i>C.S.San Juan Ostunc.</i>
3.	<i>Alicia E.Perez Galvez Enfermera Distrito</i>	<i>Municipio Cabrican</i>
4.	<i>Benjamin Pelaez Garcia Tecnico Salud Rural</i>	<i>Jef. Area De Salu d Q.</i>
5.	<i>Nora Judit De Morales Trabajadora Social</i>	<i>Jef. Area De Salud Q.</i>
6.	<i>Carlos L. Hernandez C Supervisor Saneamiento</i>	<i>Jef. Area De Salud Q.</i>
7.	<i>Dulcelina E. De Leon Auxiliar Enfermeria</i>	<i>El Eden PaLAltos</i>
8.	<i>Juan E. Gonzales G. Tecnico Salud Rural</i>	<i>C.S. Palestina Altos</i>
9.	<i>Julia A. Monterroso Auxiliar Enfermeria</i>	<i>P.S.Chuicabal Sibia</i>
10.	<i>Julia Fuentes De Ruiz Paramedico III</i>	<i>C.S.Palestina Altos</i>
11.	<i>Robertina I. Gonzales Auxiliar Enfermeria</i>	<i>Sn Jose Buenavista</i>
12.	<i>Eugenia C. Cojom R. Paramedico I</i>	<i>C.S. Cabrican</i>
13.	<i>Edgar Saul Rivera G. T.S.R. Tecnico I</i>	<i>C.S.San Carlos Sija</i>
14.	<i>Haroldo M. Son Garcia Director Centro Salud</i>	<i>C.S. Cabrican</i>

- | | | |
|-----|---|-------------------------------|
| 15. | <i>Efrain S. Perez Batin
Paramedico I</i> | <i>C.S. San Carlos Sija</i> |
| 16. | <i>Sandra Ileana Diaz
Directora Centro Salud</i> | <i>C.S. San Juan Ostunc.</i> |
| 17. | <i>Candida P. Ralon G.
Trabajadora Social</i> | <i>C.S. San Juan Ostunc.</i> |
| 18. | <i>Gonzalo A. Gomez V.
Inspector S.Ambiental</i> | <i>C.S. Quetzaltenango</i> |
| 19. | <i>Ma. Carlota Avalos
Auxiliar Enfermeria</i> | <i>C.S. San Juan Ostunc.</i> |
| 20. | <i>Erika Griselda Lopez
Capacitacion Obst.Neonat.</i> | <i>C.S. San Carlos Sija</i> |
| 21. | <i>Leonel E. Morales
Paramedico I</i> | <i>C.S. Palestina Altos</i> |
| 22. | <i>Juan F. Gonzales
Capacutacion Obst.Neonat.</i> | <i>C.S. San Martin Sac.</i> |
| 23. | <i>Edis Manolo De Leon
Inspector De Distrito</i> | <i>C.S. San Martin Sac.</i> |
| 24. | <i>Elizabeth Maldonado
Paramedico I</i> | <i>C.S. San Carlos Sija</i> |
| 25. | <i>Carmen Ochoa Galicia
Estadigrafa</i> | <i>Jef. Area De salud</i> |
| 26. | <i>Victor Hugo De Leon
Tecnico Salud Rural</i> | <i>C.S. San Martin Sac.</i> |
| 27. | <i>Judith Mendez De Tecun
Tecnico Salud Rural</i> | <i>P.S.Con.Chiquirichapa</i> |
| 28. | <i>Eugenia Ochoa A.
Auxiliar Enfermeria</i> | <i>P.S.San Miguel Siguala</i> |
| 29. | <i>Apolonio Perez Escobar
Tecnico Salud Rural</i> | <i>C.S.Cajola</i> |

- | | | |
|-----|--|------------------------------|
| 30. | <i>Carlos Enrique mendez
Director</i> | <i>C.S. San Martin Sac.</i> |
| 31. | <i>Maurilia Aracely Silva
Enfermera Distrito</i> | <i>C.S. San Carlos Sija</i> |
| 32. | <i>Abimael Paz Pisabaj
Auxiliar Enfermeria</i> | <i>P.S. Chiquibal S.C.S.</i> |
| 33. | <i>Erla Lili Cifuentes
Auxiliar Enfermeria</i> | <i>C.S. San Carlos Sija</i> |
| 34. | <i>Jose Dionico Ischin
Oficinista III</i> | <i>C.S. San Juan Ostunc.</i> |
| 35. | <i>Carlos Gramajo Soto
Tecnico I</i> | <i>P.S.Sn Miguel Siguila</i> |
| 36. | <i>Oscar Guillermo Mendez
Paramedico I</i> | <i>P.S. San Juan Ostunc.</i> |
| 37. | <i>Alicia Cordon R.
Paramedico I</i> | <i>C.S. San Carlos Sija</i> |
| 38. | <i>Teresa L.De Castro
Tecnico Salud Rural</i> | <i>P.S. Varsovia</i> |
| 39. | <i>Sandra De Villagran
Auxiliar Enfermeria</i> | <i>P.S. Varsovia</i> |
| 40. | <i>Margarita Menchu
Auxiliar Enfermeria</i> | <i>P.S.Concepcion</i> |
| 41. | <i>Sabina Izabel Perez
Auxiliar Enfermeria</i> | <i>P.S. Cajola</i> |
| 42. | <i>Elia Violeta Sosa
Auxiliar Enfermeria</i> | <i>C.S. San Martin Sac.</i> |
| 43. | <i>Rosario A. Calderon
Auxiliar Enfermeria</i> | <i>C.S. San Juan Ostunc.</i> |
| 44. | <i>Onestina De Gonzales
Paramedico III</i> | <i>C.S. San Martin Sac.</i> |

- | | | |
|-----|---|-----------------------------|
| 45. | <i>Telma De Garcia
Paramedico I</i> | <i>C.S. San Martin Sac.</i> |
| 46. | <i>Clara Luz Barrios
Enfermera Jefe de Area</i> | <i>Jefatura De Area</i> |
| 47. | <i>Carlos Raul chinchilla
Medico Jefe de Area</i> | <i>Jefatura de Area</i> |
| 48. | <i>Romelia Izabel Rios
Paramedico I</i> | <i>P.S. Vixben</i> |
| 49. | <i>Virgilio Roman De Leon
Tecnico Salud Rural</i> | <i>P.S. Sibia</i> |
| 50. | <i>Orfa Maribel Soto
Auxiliar Enfermeria</i> | <i>P.S. Sibia</i> |

EFATURA DE AREA DE JETZALTENANGO:

Antonio Rojas Quintana	Tecnico en Salud Rural
Alfonso de la Cruz Jimenez	Auxiliar de Enfermeria
Alfonso Jimenez Jimenez	Tecnico en Salud Rural
Alfonso Jimenez Jimenez	Subseccion de Incentivos
Alfonso Jimenez Jimenez	Trabajador Social
Alfonso Jimenez Jimenez	Tecnico en Salud Rural

AN JUAN OSTUNCALCO

Alfonso Jimenez Jimenez	Auxiliar de Enfermeria
Alfonso Jimenez Jimenez	Tecnico en Salud Rural
Eugenia Ochoa de Almanar	Auxiliar de Enfermeria Siguita
Estelina Isabel de Castillo	Auxiliar de Enfermeria Casera
Alfonso Jimenez Jimenez	Tecnico en Salud Rural
Teresa Jimenez Jimenez	Tecnico en Salud Rural
Varsovia	
Diana de Villagran	Auxiliar de Enfermeria
Varsovia	
Alfonso Jimenez Jimenez	Tecnico en Salud Rural
Alfonso Jimenez Jimenez	Oficial de Salud
Alfonso Jimenez Jimenez	Auxiliar de Enfermeria
Alfonso Jimenez Jimenez	Inspector de Incentivos
Alfonso Jimenez Jimenez	
Alfonso Jimenez Jimenez	Tecnico en Salud Rural

APPENDIX D

APPENDIX D
SCHEDULE WORKSHOP I

EVENT: Work agenda for designing the training workshop for management of high risk obstetrical and neonatal events

PLACE: Catholic Training Center, Quetzaltenango.

DATE: March 11 - 12, 1991

PARTICIPATING

INSTITUTIONS:

Quetzaltenango Health Area.

Quetzaltenango Health Area Districts:

San Martin Sacatepequez

San Juan Ostuncalco

Paltestina de los Altos

Cubricán

San Carlos Sija

Instituto de Nutrición de Centroamerica y
Panama (INCAP)

IMPORTANT NOTICE TO ALL PARTICIPANTS

Because this is a participatory activity, the established schedules are flexible and are subject to changes if the activity's development thus requires. This means that if a given activity requires more time than was previously established, the program will be modified in order to fulfill the proposed objective.

OBJECTIVES:

1. To present, discuss and analyze the findings of the maternal, perinatal, and neonatal mortality study.
2. To establish the training needs of the participants, based on the information generated by the study.
3. To determine the training needs of the participants, based on their experiences and their health establishments' situation.
4. To produce a detailed work plan for the Workshop to be held during march 18-22, that will include contents, methodology and duration.
5. Discussion and appointment of work methodology for the elaboration of norms, indicators, perinatal clinical record revision and referral/counter-referral system for the Workshop.
6. To reinforce the importance of health care personnel in improving the health status of women and newborns at the community level.

MONDAY, MARCH 11, 1991

8:00 - 8:30 Registration

8:30 - 8:40 Welcome Address - Dr. Barbara Schieber
(INCAP)

8:40 - 8:50 Inauguration - Dr. Raul Chinchilla,
Quetzaltengo Health Area
Director.

8:50 - 9:00 Discussion of the workshop's proposed work
methodology.

9:00 - 9:45 Assessment of technical knowledge on Obstetric and
Neonatal high risk.

9:45 - 10:10 Presentation of results of assessment of Obstetric
and Neonatal High Risk.

10:10 - 10:20 Results discussion.

10:20 - 10:40 Coffee break

33

- 10:40 - 11:15 Presentation of the Maternal Mortality Study
- 11:15 - 11:30 Questions and Answers.
- 11:30 - 12:00 Work Guide No.1
- 12:00 - 13:00 Group work presentation and unification of proposed contents.
- 13:00 - 14:00 Lunch time.
- 14:00 - 14:45 Presentation of Perinatal and Neonatal Mortality Study.
- 14:45 - 15:00 Questions and Answers
- 15:00 - 15:20 Coffee Break
- 15:20 - 15:50 Work Guide No. 2
- 15:50 - 16:30 Group work presentation and unification of proposed contents.

TUESDAY, MARCH 12, 1991

- 8:00 - 8:45 Work methodology discussion for:
Elaboration of Norms.
Elaboration of evaluation and monitoring indicators for process and impact.
Perinatal clinical record revision.
Establishment of the referral / counter-referral system.
- 8:45 - 10:00 Human communication and motivation Activity
(JULIO CESAR ARRIOLA).
- 10:00 - 10:20 Coffee Break.
- 10:20 - 13:00 Human motivation and communication activity.
- 13:00 - 14:00 Lunch time.
- 14:00 - 15:30 Human motivation and communication activity.
- 15:30 - 16:00 Activity closure.

SCHEDULE WORKSHOP II

EVENT: Training workshop on management of Obstetric and Neonatal High Risk.

PLACE: Del Campo Hotel.

DATE: March 18 - 22.

PARTICIPATING INSTITUTIONS:

- * Quetzaltenango Health Area
- * Quetzaltenango Health Districts:
 - Palestina de los Altos
 - San Juan Ostuncalco
 - San Martín Sacatepequez
 - San Carlos Sija
 - Cubricán
- * Instituto de Nutrición de Centroamérica y Panamá (INCAP)

IMPORTANT NOTICE TO ALL PARTICIPANTS

Because this is a participatory activity, the established schedules are flexible and are subject to changes if the activity's development thus requires. This means that if a given activity requires more time than was previously established, the program will be modified in order to fulfill the proposed objective.

OBJECTIVES

1. To increase health personnel's technical knowledge on the management of obstetrical and neonatal high risk events.
2. To produce and discuss norms for management of obstetrical and Neonatal high risk cases.
3. To elaborate and discuss indicators for evaluating and monitoring the process as well as the impact of the interventions carried out at health services and community levels.
4. For the health districts, the health area and regional hospital to jointly develop and discuss a referral/counter-referral system for obstetric and neonatal high risk cases
5. To develop a practical training plan for health personnel, covering high priority obstetric and neonatal aspects.
6. To analyze and discuss the Ministry of Public Health's maternal clinical record.

PROGRAM

MONDAY, MARCH 18, 1991.

- 8:00 - 8:20 Registration
- 8:20 - 8:30 Welcome Address DR. RAUL CHINCHILLA,
DIRECTOR OF THE QUETZALTENANGO
HEALTH AREA.
- 8:30 - 8:40 Presentation of the workshop's proposed
methodology.
- 8:40 - 9:40 Assessment of technical knowledge on Neonatal high
risk.
- 9:40 - 10:30 Presentation of results of assessment of technical
knowledge about Neonatal High Risk.
- DR. MARIO MEJIA**
- 10:30 - 10:50 Coffee Break.
- 10:50 - 12:30 Continuation of results of assessment of technical
knowledge about Neonatal High Risk.
- 12:30 - 13:30 Lunch time.

13:30 - 15:00 Group work for the elaboration of norms as well as presentation of the norms produced.

15:00 - 15:15 Coffee Break.

15:15 - 16:00 Continuation of Norms Presentation.

TUESDAY, MARCH 19, 1991

- 8:00 - 8:30 Technical Obstetric knowledge assessment
- 8:30 - 10:30 Presentation of technical obstetric knowledge assessment results
DR. RAUL NAJARRO
- 10:30 - 10:45 Coffee Break
- 10:45 - 12:30 Continuation of presentation of technical obstetric knowledge assessment results
- 12:30 - 13:30 Lunch time
- 13:30 - 15:00 Group work for norms elaboration
- 15:00 - 15:15 Coffee Break
- 15:15 - 16:00 Continuation of group work for norms elaboration
Presentation and Discussion of Norms

WEDNESDAY, MARCH 20, 1991

- 8:00 - 10:00 Presentation and discussion of obstetrical norms.
- 10:00 - 10:15 Coffee Break
- 10:15 - 12:30 Normal Prenatal Care Norms Presentation.
- 12:30 - 13:30 Lunch time
- 13:30 - 14:30 Group work to determine practical training activities with contents, methodology and place for carrying out the practical training.
- 14:30 - 15:00 Presentation of group work.
- 15:00 - 15:15 Coffee Break
- 15:15 - 16:00 Group work consolidation:
scheduling of practical training activities.

THURSDAY, MARCH 21, 1991

- 8:00 - 8:45 Explanation of the Maternal Clinical Record
- 8:45 - 9:15 Group discussion of the Maternal Clinical Record
- 9:15 - 9:45 Presentation of conclusions reached by the discussion groups.
- 9:45 - 10:15 Group work consolidation
- 10:15 - 10:30 Coffee Break
- 10:30 - 12:00 How indicators are selected and elaborated.
- 12:00 - 13:00 Lunch time.
- 13:00 - 14:30 Group work to elaborate indicators
- 14:30 - 15:00 Presentation of Group work results
- 15:00 - 15:15 Coffee Break
- 15:15 - 16:00 Continuation of group work and elaboration of consolidated list of indicators.

FRIDAY, MARCH 22, 1991

- 8:00 - 10:00 Health Districts meeting with "Hospital de Occidente's" Obstetrics and Pediatrics Departments..

Presentation of each group's current situation of the referral/counter-referral system
- 10:00 - 10:15 Coffee Break
- 10:15 - 11:15 Continuation of meeting.

Elaboration of referral and counter-referral card.

Agreements on the referral and counter-referral system.
- 11:15 - 11:30 Scheduling of hospital personnel to the health districts.
- 11:30 - 12:30 Post test on technical knowledge for management of obstetric and neonatal high risk events.
- 12:30 - 13:30 Lunch time
- 13:30 - 15:00 Post test continuation.
- 15:15 - 16:00 Analysis of pre-test and post-test
- 16:00 - 16:00 Workshop closure.

APPENDIX E

ESTUDIO DE MORTALIDAD MATERNA COMUNITARIA

(20 CASOS)

INICIO 16 DE OCTUBRE - 21 DE DICIEMBRE 1990

PERIODO EN QUE OCURRIO LA MUERTE

	No	%
POST-PARTO INMEDIATO (PRIMERAS 2 HORAS) =	7	35.0
POST-PARTO MEDIATO (PRIMERAS 48 HRS) =	7	35.0
POST-PARTO TARDIO (6 SEMANAS) =	4	20.0
EMBARAZO (1er. TRIMESTRE) =	2	10.0
TOTAL =	20	100.0

CAUSA DE MUERTE POR PERIODO

EMBARAZO	GECA	=	1	
	COREA (CAUSA DUDOSA)	=	1	
SUBTOTAL			=	2 10%
POST-PARTO	HEMORRAGIA Y RETENCION DE PLACENTA	=	5	
	HEMORRAGIA Y RESTOS FLACENTARIOS	=	2	
	HEMORRAGIA E INFECCION PUERPERAL	=	1	
	HEMORRAGIA	=	1	
SUBTOTAL			=	9 45%
	INFECCION PUERPERAL	=	1	
	INFECCION PUERPERAL + GECA	=	1	
	INFECCION PUERPERAL + PROBLEMA UTERI NO ANTERIOR	=	1	
SUBTOTAL			=	3 15%
	ECLAMPSIA	=	2	
	ECLAMPSIA + RETENCION DE PLACENTA	=	1	
SUBTOTAL			=	3 15%
	PROCESO INFECCIOSO CRONICO	=	1	
	GECA	=	1	
	TUBERCULOSIS PULMONAR	=	1	
SUBTOTAL			=	3 15%

CAUSA DE MUERTE EN POST -- PARTO

	No	%
CAUSA DE MUERTE ASOCIADO A HEMORRAGIA =	9	50.00
CAUSA DE MUERTE ASOCIADO A INFECCION PUERPERAL =	3	16.66
CAUSA DE MUERTE ASOCIADO A OTROS PROCESOS INFECCIOSOS =	3	16.66
CAUSA DE MUERTE ASOCIADO A ECLAMPSIA =	3	16.66
TOTAL =	18	100.00

CAUSA DE MUERTE EN EMBARAZO

GASTROENTEROCOLITIS AGUDA GECA =	1
TUBERCULOSIS PULMONAR =	1
TOTAL =	2

LUGAR DE MUERTE DE LA PARTURIENTA

POST - PARTO		
CASA =	14	70.00 %
CARRETERA =	3	15.00 %
HOSP. COATEPEQUE =	1	5.00 %
EMBARAZO		
CASA =	2	10.00 %

DESTINO DEL NIÑO

NACIO VIVO, FUE REGALADO Y MURIO =	1	5.00 %
NACIO VIVO Y FUE REGALADO =	3	15.00 %
VIVE EN CASA DE LA FAMILIA =	10	50.00 %
NACIO VIVO Y MURIO EN PERIODO NEONATAL =	2	10.00 %
NACIO MUERTO =	1	5.00 %
MURIO A LOS 5 MESES DE TB PULMONAR =	1	5.00 %
MURIERON EN EMBARAZO =	2	10.00 %
TOTAL =	20	100.00%

DURACION DE LA ENFERMEDAD

MENOS DE 1 HORA	= 2	PRIMERAS 6 HORAS POST - PARTO	PRIMERAS 48 HORAS	13 CA-- SOS	65%
1 -- 6 HORAS	= 7				
7 HRS - 24 HRS	= 1	7 HRS - 2 DIAS POST-PARTO			
24 HRS - 48 HRS	= 3				
3 DIAS A 7 DIAS	= 3	3er. DIA A 49 DIAS PP	48 HORAS HASTA 49 DIAS PP	4 CA-- SOS	20%
8 DIAS A 49 DIAS	= 1				
MAS (9 MESES)	= 2	DURANTE EMBARAZO		2CA-- SOS	10%
8 DIAS	= 1	DURANTE EMBARAZO		1 CASO	5%
TOTAL	= 20				100%

ESTUDIO MORTALIDAD PERI -- NEONATAL COMUNITARIA

120 CASOS

ENERO 90 - JUNIO 90

CATEGORIA DE CASO POR DISTRITO

CATEGORIA	SAN MARTIN SAC	SAN JUAN OST	SAN CARLOS SIJA	PALESTINA
OBITO	5	5	2	8
MORTI-NATOS	6	12	9	9
1er. DIA	6	4	5	1
2o-7 DIA	4	2	4	2
8-28oDIA	9	7	10	10

CATEGORIA OBITO + MORTINATO + MUERTE NENONATAL POR DISTRITO

CATEGORIA	SAN MARTIN SAC	SAN JUAN OST	SAN CARLOS SIJA	PALESTINA
OBITO	5 = 16.6 %	5 = 16.6 %	2 = 6.6 %	8 = 26.6%
MORTINA-TO + 1er. DIA	12 = 40.00 %	16 = 53.3 %	14 = 46.6 %	10 = 33.3%
2o. - 28o. DIA	13 = 43.3 %	9 = 30 %	14 = 46.6%	12 = 40 %

TOTAL DE CASOS POR CATEGORIAS

CATEGORIA	No.	%	No.	%
OBITOS	= 20	= 16.66 %	20	= 16.66 %
MORTINATOS	= 36	= 30.00 %	52	= 43.33 %
1er. DIA	= 16	= 13.33 %		
2o - 7o. DIA	= 12	= 10.00 %	48	= 40.00 %
8o-28o. DIA	= 36	= 30.00 %		
TOTAL	120	100.00 %	120	= 100.00 %

CAUSA DE MUERTE POR EDAD POR DISTRITO

PERIODO	DISTRITOS / CAUSA	SAN CARLOS SIJA	SAN JUAN OSTUNCALCO	SAN MARTIN SAC.	PALESTINA DE LOS ALTOS	TOTAL
MORTINA- TO	ASFIXIA	9	10	6	9	34
	PREMATU- REZ	0	2	0	0	2
	TOTAL	9	12	6	9	36
1er. DIA	ASFIXIA	2	2	1	1	6
	PREMATU- REZ	2	1	4	0	7
	SEPSIS	0	0	1	0	1
	VARIOS	1	1	0	0	2
	TOTAL	5	4	6	1	16
2o. - 7o. DIA	ASFIXIA	1	0	0	0	1
	PREMATU- REZ	2	0	2	1	5
	SEPSIS	0	2	2	1	5
	VARIOS	1	0	0	0	1
	TOTAL	4	2	4	2	12
8o. - 28o. DIA	ASFIXIA	1	0	0	0	1
	PREMATU- REZ	4	1	1	0	6
	SEPSIS	5	6	8	9	20
	VARIOS	0	0	0	1	1
	TOTAL	10	7	9	10	36
TODOS LOS ANTERIO- RES		28	25	25	22	100
OBITOS		2	5	5	8	20
GRAN TOTAL		30	30	30	30	120

CAUSA DE MUERTE POR EDAD

CAUSA	EDAD				TOTAL	
	MORTINATO + 1er DIA		2o. - 7o. + 8o. - 28o. DIA			
	No.	%	No.	%	No.	%
ASFIXIA	40	76.9	2	4.2	42	42 %
PREMATUREZ	9	17.3	11	22.9	20	20 %
SEPSIS	1	2	33	68.8	34	34 %
VARIOS	2	3.8	2	4.1	4	4 %
TOTAL	52	100 %	48	100	100	100 %

ASELIXIA. CATEGORIAS

	No.	%
Trabajo de parto prolongado y desproposición feto - pélvica	18	42.9
Mal posición fetal	18	42.9
Accidente de cordón	1	2.3
Gemelos	3	7.1
Varios (placenta previa, aspiración meconio)	2	4.8
Total	42	100

SEPSIS. CATEGORIAS

	No.	%
Sepsis	8	23.5
Sepsis por DNM	15	44.1
Sepsis por onfalitis	5	14.7
Sepsis y anomalia congenita	4	11.7
Sepsis y prematurez	1	2.9
Sepsis por piodermitis	1	2.9
Total	34	100

PREMATUREZ, CATEGORIAS

	No.	%
Prematurez	4	20
Prematurez + hipotermia y/o hipoglicemia	9	45
Prematurez + Sepsis	3	15
Prematurez + membrana hialina	3	15
Prematurez + anomalia congenita	1	5
Total	20	100

VARIOS, CATEGORIAS

	No.	%
Enfermedad hemorragica del RN	1	25
Problema respiratorio de etiologia	2	50
Hipoglicemia por mala alimentación	1	25
Total	4	100

ANTECEDENTES

Investigaciones recientes han dado nueva información sobre el patrón de la mortalidad infantil en Guatemala, revelando que aproximadamente 50% de todas las muertes infantiles ocurren durante el nacimiento o antes de los tres meses. Aunque programas de enfermedades diarreicas, inmunización y de atención primaria en salud han empezado a tener impacto sobre la supervivencia de los infantes más grandes y de los niños mayores, es hasta recientemente que los problemas más complejos de mortalidad materna, neonatal e intraparto han recibido más atención programática.

Extrapolando de una TMI (tasa de mortalidad infantil) de 73.4 por 1,000 nacidos vivos (Encuesta de Salud Materno-Infantil de Guatemala de 1987), se puede calcular una tasa de mortalidad intraparto/neonatal mayor de 36 para el país. Una encuesta reciente de INCAP de 26 hospitales del MSP (Ministerio de Salud Pública en toda Guatemala mostró una tasa de mortalidad materna institucional de aproximadamente 220 por 100,000 nacidos vivos. Si se incluye las muertes maternas que no se registran en las comunidades resultaría sin duda alguna en una tasa aún mayor.

Este proyecto de Salud Materna y Neonatal del Area de Salud de Quetzaltenango con INCAP propone una "solución innovadora" a los problemas prioritarios de salud materna y neonatal, utilizando los recursos locales y el personal existente del área de salud. El proyecto se está desarrollando después de una serie de estudios de diagnóstico elaborados por el Area de Salud de Quetzaltenango e INCAP en los departamentos de Quetzaltenango y otros estudios en

Sacatepéquez. Estos estudios identificaron los principales eventos de salud asociados con la mortalidad materna, intraparto neonatal. También se documentaron las prácticas actuales y las deficiencias de las comadronas en el manejo de embarazos, partos neonatos de alto riesgo, así como del sistema de salud responsable de recibir a los pacientes referidos por las comadronas.

La estrategia del proyecto se enfoca en mejorar la identificación y el manejo de los eventos maternos, perinatales y neonatales de alto riesgo en todos los niveles del sistema de salud. Propone mejorar el conocimiento, las capacidades y la relación de las comadronas con el sistema formal de entrega de servicios de salud, así como la capacidad del sistema para responder adecuada y efectivamente al manejo de los casos de alto riesgo materno y neonatal que sean referidos.

Las intervenciones se llevarán a cabo simultáneamente en cada uno de los niveles de atención del sistema de salud (comadronas, Centros y Puestos de Salud y hospitales). Se establecerán las políticas en relación al manejo adecuado de pacientes, información a ser recolectada y los instrumentos para la recolección de la misma con participantes del sistema de salud Nacional (con la colaboración de los investigadores de INCAP). Las políticas serán operacionalizadas como normas que definen la respuesta adecuada a los eventos y situaciones de riesgo específicos de cada nivel de servicio a los eventos y situaciones de riesgos específicos, y se capacitarán a los proveedores de salud (comadronas, clínicas y hospitales) en su uso.

Se desarrollará y probará un enfoque de manejo de riesgos que sea factible dadas las características de la población y los recursos disponibles en el sistema de salud. El proyecto se enfocará tanto en la identificación como en el manejo de eventos obstétricos y neonatales específicos como en el manejo de eventos obstétricos y neonatales específicos de alto riesgo y en el aumento de la cobertura de atención prenatal para que puedan detectarse más madres y niños a riesgo de esos eventos específicos.

RESUMEN DE LOS HALLAZGOS DE LOS ESTUDIOS DE
MORTALIDAD MATERNA, PERI Y NEONATAL A NIVEL DE
COMUNIDADES RURALES DEL AREA DE SALUD DE QUETZALTENANGO

El objetivo de estos estudios era determinar las principales causas de mortalidad materna, peri y neonatal a nivel de las comunidades del área de salud de Quetzaltenango. Los estudios fueron realizados en el año 1990 con personal técnico del INCAP.

El propósito final de los estudios era proporcionar la información necesaria para diseñar los contenidos de capacitación y normatización para los distritos de salud sobre alto riesgo obstétrico y neonatal.

Los hallazgos más importantes se describen a continuación:

ESTUDIO DE CAUSA DE MUERTE

PERI Y NEONATAL

Por fines de causalidad de muerte se dividió el período de muerte, en dos grupos principales:

- a) Intraparto y el primer día de vida (causa de muerte en alto porcentaje relacionada con manejo del parto).
- b) Segundo a 28° de vida (causas de muerte en alto porcentaje no asociadas a manejo del parto).

La causa principal de muerte intraparto - 1er. día de vida es por asfixia perinatal (86%) causado por mal posición fetal y trabajo de parto prolongado.

La causa principal de muerte del 2o. al 28o. día de vida es por sepsis (68.8%), originada en la mayoría de los casos por infecciones respiratorias.

Los prematuros y niños de bajo peso al nacer contribuyen en un 20% a la mortalidad.

También es importante notar que de la muestra total, 16% eran obitos, 43.3% muerte intraparto, 1er. día de vida y 40% muertes del 2o. al 28o. día de vida.

Las causas de muerte de los casos detectados en la muestra son en un alto porcentaje (\pm 80%) prevenibles por medidas sencillas y a nuestro alcance.

MORTALIDAD MATERNA

Al analizar las muerte maternas por período en que ocurre la muerte, se encontró que la mayoría de muertes (70%) ocurren en las primeras 48 horas después del parto.

Las causas principales de muerte materna son hemorragias (50%) infección puerperal (15%) y eclampsia (15%).

El destino del niño de las madres que mueren es importante. El 20% de los niños fueron regalados a otra familia, 30% de todos los niños murieron dentro de los primeros cinco meses después del parto.

De todas las madres de la muestra que murieron en la comunidad, 75% murieron en su casa y 15% murieron camino al hospital en la carretera.

También en el caso de las muerte maternas la gran mayoría (95%) son totalmente prevenibles.

APPENDIX F

DIAGNOSIS OF BASIC KNOWLEDGE OF MATERNAL AND NEONATAL HIGH RISK CONDITIONS

The following questions were designed to establish the degree of knowledge on maternal and neonatal high risk conditions that the health personnel has. All the answers should be answered considering existing resources at the health posts and health centers where the personnel labors. Answers about case management should be answered in two parts: when the woman accepts being referred or when the woman does not accept being referred.

The scores registered on the left margin of each page represents each question's value.

NOTE: When in a question contains the phrase "what should you evaluate?", it is referring to physical examination parameters.

SCORES

QUESTIONS AND ANSWERS

1. What are the 5 most important signs and symptoms to identify pre-eclampsia?

2. What do you understand by "high arterial blood pressure" in a pregnant woman (answer in terms of systolic and diastolic blood pressure values)?

3. Mention the most important clinical finding for referring a woman with pre-eclampsia:

4. What should you ask a pregnant woman in order to assess the possibility of pre-eclampsia and what

should you evaluate to achieve this?

a. Questions to be asked:

1)

2)

3)

4)

5)

2

b. Parameters to evaluate:

1)

2)

5. What is the correct management of a pregnant woman with signs and symptoms suggestive of pre-eclampsia at a health center or health post?

2

a. If she accepts being referred:

1)

2)

4

b. If she does not accept being referred to the hospital?

1)

2)

3)

4)

2

6. What is your definition of prolonged labor?

a. In a primigravida:

b. In a multigravida:

?

7. When explaining to a midwife (TBA) about a

65

particular case's need to be referred to the hospital because of prolonged labor, what should you say to the midwife (what could be the ultimate negative outcome for mother and/or baby if referral is not complied with)?

1 8. What is your definition of premature labor?

9. What questions should you ask a pregnant woman and what should be evaluated to establish whether there is premature rupture of ovular membranes?

5 a. Questions to be asked:

1)

2)

3)

4)

5)

2 b. Parameters to evaluate:

1)

2)

2 10. What criterion should determine the referral of a pregnant woman with premature rupture of the membranes?

11. What questions should you ask and what should be evaluated to establish the existence of premature

labor?

5 a. Questions to be asked:

1)

2)

3)

4)

5)

5 b. Parameters to evaluate:

1)

2)

12. What is the correct management of a woman with signs and symptoms suggestive of premature labor at a health center or health post?

3 a. If she accepts being referred:

1)

2)

3)

2 b. If she does not accept being referred to the hospital?

1)

2)

2 13. List the two different types of fetal malpresentation:

a.

b.

67

14. Explain why the following variations signify greater danger to the fetus:

2

a. Breech presentation (podalic variety):

2

b. Umbilical cord prolapse:

15. Why is it always indispensable that labor takes place at hospital facilities when the fetus comes in a transverse lie?

2

a. For maternal well being:

2

b. For fetal/neonatal well being:

2

16. Name the two procedures that can be attempted to restore the fetal position back to vertical with cephalic presentation:

a.

b.

17. What questions should you ask and what should be evaluated to establish the occurrence of fetal malpresentation?

1

a. Questions to be asked:

2

b. Parameters to evaluate:

1)

2)

18. What recommendations (or educational orientation)

should you give a pregnant woman with fetal malpresentation who consults the health post or health center?

2 a. If she accepts being referred:

1)

2)

1 b. If she does not accept being referred to the hospital?

19. Name the more common causes of hemorrhage:

2 a. During pregnancy (prenatally):

1)

2)

3 b. After delivery:

1)

2)

3)

10 20. Under the corresponding spaces below briefly describe the principal differences between placenta previa and abruptio placenta:

SYMPTOMS

PLACENTA PREVIA

ABRUPTIO PLACENTA

Bleeding

Abdominal pain

SIGNS

Blood pressure

Uterine sensitiveness

Uterine tone

21. What is the correct management of a pregnant woman with hemorrhage seen at a health center or health post?

2 a. If she accepts being referred:

1)

2)

2 b. If she does not accept being referred to the hospital?

1)

2)

10. 22. According to the specific cause for bleeding after delivery, what are the main differences in the clinical findings for:

UTERINE ATONY PLACENTAL RETENTION LACERATIONS

UTERUS

PLACENTA

VAGINA

23. What is the correct management of a woman with post partum bleeding at a health post or health center?

6 a. If she accepts being referred:

1)

2)

3)

4)

5)

6 b. If she does not accept being referred to the hospital?

1)

2)

3)

4)

5)

1 24. What is your definition of puerperal uterine infection?

6 25. List the 6 prominent clinical findings in septic shock that occurs during the puerperium?

a.

b.

c.

d.

e.

f.

26. What questions should you ask and what should you evaluate in order to determine whether a woman has post partum uterine infection or not?

3 a. Questions to be asked:

1)

2)

3)

11

3

b. Parameters to evaluate:

1)

2)

3)

27. What is the correct management of a woman with clinical findings compatible with post partum sepsis at a health center or health post?

5

a. If she accepts being referred:

1)

2)

3)

4)

5)

5

b. If she does not accept being referred to the hospital?

1)

2)

3)

4)

5)

8

28. List the 8 most frequent clinical findings (signs and symptoms) of neonatal sepsis:

a.

b.

c.

92

d.

e.

f.

g.

h.

5

29. What are the 4 most important risk factors that could contribute to the development of neonatal sepsis?

a.

b.

c.

d.

5

30. Write down the questions you should ask a family with a baby suspected of having sepsis:

a.

b.

c.

d.

e.

31. What is the correct management of a neonate with clinical findings that are compatible with sepsis at a health center or health post?

72

- 5 a. If the family accepts complying with the referral:
- 1)
 - 2)
 - 3)
 - 4)
 - 5)
- 4 b. If the family accepts complying with the referral:
- 1)
 - 2)
 - 3)
 - 4)
- 2 32. Define the following terms:
- a. Low birth weight:
 - b. Prematurity:
- 2 33. List the 3 major complications found in low birth weight and/or premature babies:
- a.
 - b.
 - c.
- 2 34. List the 2 most important criteria to decide for referral of a premature or low birth weight baby (you would be compelled to refer the baby if he/she:
- a.
 - b.

- 1 35. What must you always do before examining a newborn baby?
36. What is the correct management of a premature baby at a health center or health post?
- 4 a. If the family accepts complying with the referral:
- 1)
- 2)
- 3)
- 4)
- 4 b. If the family accepts complying with the referral:
- 1)
- 2)
- 3)
- 4)
- 4 37. List 4 ways to maintain adequate temperature levels in a premature baby:
- a.
- b.
- c.
- d.

ANSWERING KEY

1.
 - a. High arterial blood pressure.
 - b. Edema of hands, face and lower extremities.
 - c. Headache
 - d. Dizziness and/or blurred vision.
 - e. Nausea, vomit and/or epigastric pain.
2. Diastolic pressure higher than 90 mm Hg, or an increase in diastolic blood pressure \geq 30 mm Hg above a previously registered normal reading. Systolic pressure higher than 140 mm Hg, or an increase of more than 15 mm Hg above a previously registered normal level.
** Blood pressure readings must be taken on at least 2 occasions separated by at least 2 hours.
3. All pregnant women with high blood pressure, with or without other clinical findings must be referred.
4.
 - a.
 - 1) Do you feel bloated? Where? Since when?
 - 2) Do you have a headache? Since when?
 - 3) Do you feel dizzy or have blurred vision? Since when?
 - 4) Do you have nausea, vomit or epigastric pain?
 - 5) Have you had high blood pressure before pregnancy or during previous pregnancies?
 - b.
 - 1) Measure the patient's blood pressure (at least 2 readings must be taken at 1-2 hours interval).

- 2) Look for facial, hands or leg edema.
5. a.
 - 1) Give all present relatives adequate explanations of what pre-eclampsia means.
 - 2) Refer to hospital with referral sheet.
 - b.
 - 1) Bed rest as much as possible (trying to maintain a left lateral resting position).
 - 2) Drink as much liquid as possible, without caffeine (no coffee, no cola drinks, no regular black tea). Recommend lemon juice or lemonade with honey, natural herbs tea (specially camomile).
 - 3) Eat well. There are several good things to eat like parsley, cucumbers with the peelings. If it is possible, recommend beans, eggs, meat, milk, cheese, yogurt, etc. Proteins help lower blood pressure.
 - 4) If the woman has advanced symptoms/signs, she should go back to the health center/post (or hospital) for check up. The signs and symptoms of progressive pre-eclampsia are: dizziness, blurred vision, nausea, vomit, epigastric pain and seizures.
6. a. 18 hours of regular and strong uterine contractions (every 3 minutes) without the fetal head causing the labia to separate upon bearing down efforts.
 - b. 12 hours of regular and strong uterine contractions

(every 3 minutes) without the fetal head causing the labia to separate upon bearing down efforts.

7. Prolonged labor implies risk of fetal death from asphyxia. Asphyxia itself implies serious complications. There is also danger for the mother: exhaustion (syncope), dehydration, etc.
8. Regular contractions (real labor) that produce cervical dilation before 37 weeks of gestation.
9. a.
 - 1) Has the mother noticed an abnormally abundant vaginal discharge?
 - 2) Is the fluid discharge constant? if it is not, when is the discharge greater? (walking, increased abdominal efforts?).
 - 3) Does the mother feel like she's voiding her urinary bladder inevitably?
 - 4) Is the discharge clear, transparent or does it have a particular color (red, pink, yellow, green, brown?).
 - 5) Does the mother feel high temperature?b.
 - 1) Examine the vulva and corroborate the existence of vaginal discharge, its quantity, color, and odor.
 - 2) Take the woman's temperature.
10. If membranes have been ruptured for ≥ 12 hours, without true labor or, regardless of labor, when membranes are ruptured and

73

the woman develops fever or the fetus does not show movement.

11. a.
 - 1) What is your expected delivery date? Are you sure?
 - 2) Ask all the relevant questions pertaining to premature rupture of fetal membranes.
 - 3) About uterine contractions:
 - Time of initiation;
 - Frequency;
 - Intensity.
 - 4) Presence of blood (and amount of bleeding).
 - b.
 - 1) Uterine palpation and determination of contraction frequency, duration and strength. Determination of fetal position, poles and number.
 - 2) Measure uterine height (fundal height) to estimate fetal age.
 - 3) Evaluation of fetal heart rate (auscultatory).
 - 4) External genitalia examination to determine the presence of vaginal discharge: amniotic fluid and/or hemorrhage.
-
12. a.
 - 1) Explain to relatives.
 - 2) Refer to the hospital with referral sheet if the pregnancy is less than 37 weeks.
 - b.
 - 1) If multiple fetuses and/or fetal malpresentation is detected, further efforts should be made to convince relatives to accept the referral.
 - 2) Instructions to the mother:

- Rest and drink as much fluid as possible (camomile tea is good for decreasing contractions);
- Instruct the relatives and the mother about the correct care for premature babies and tell them that:
 - * They should not bathe the baby before medical evaluation;
 - * Put the baby to its mother's breast, if the baby is strong enough to suckle (as should be advised in any other normal delivery);
 - * Keep the baby warm;
 - * If the baby is too small, try to convince the family into bringing the baby to the health services for antibiotic treatment and clinical evaluation.

13. a. Breech presentation.

b. Transverse lie.

14. a. Immediate dangers inherent to delivery in breech presentation:

The presenting part (feet, knees, buttocks, etc.) usually protrudes from the cervix before full dilation; thus, the fetal head may become trapped by the cervix or by other maternal tissues coming in contact with the fetal chin

(causing extension and retention of the fetal head). If externally stimulated, the fetus may start breathing while the head is still within the uterus or vagina, leading to fetal asphyxia. Another frequent cause of asphyxia in these cases can be umbilical cord compression. If intense efforts are carried out by the birth attendant to deliver the baby, injuries to the spinal cord and some abdominal organs may occur (liver, spleen, adrenals, etc.).

- b. Risk of umbilical cord prolapse (and fetal asphyxia) when fetal membranes are ruptured: malpresentation or transverse lie are associated more often than normal with umbilical cord prolapse when there is also rupture of fetal membranes, because of the unoccupied space between the descending fetal parts and the internal perimeter of the cervix.

15. a. Maternal considerations: Prolonged labor may bring about uterine rupture, which is a cause of massive uterine hemorrhage that may kill both mother and fetus. Caesarean section is usually necessary in these cases.
- b. Fetal considerations: no fetus can be born while in a transverse lie. Thus, if a caesarean section is not timely performed, the baby is bound to die from asphyxia and/or concomitant internal organ injury. Transverse lies are usually associated with fetal parts or cord prolapse.
- 91

16. a. External version: can be used to try to reverse a breech presentation or a transverse lie.
- b. Special exercises for the mother when confronting fetal malpresentation: the mother must lie on her back, with hips higher than the maternal torso and head, during 10 minutes, 3 times a day. Another position that can be taken with the same frequency is the maternal genu varum position: on her knees and with her buttocks high up in the air, the woman places her chin between her legs. While carrying out these exercises, the woman must alternate from side to side in order to allow the baby to fall into the correct vertical position.

17. a. Question to be asked:

Where within the abdomen are fetal movements felt more often and strongly? (when the fetus lies buttocks down, the mother generally feels more fetal movements below her umbilicus and/or about the retropubic area.)

- b. 1) Measure the uterine fundal height: when the fetus is in a transverse lie, fundal height is usually shorter.
- 2) Leopold's maneuvers to assess the position of the fetal head, buttocks and back.
- If the fetus is in breech presentation: the head will be at the fundus about the epigastrium (where the fetal buttocks would be if he (she) were in a normal cephalic

presentation).

- If the fetus is in a transverse lie: the position of the fetus will be horizontal, rather than vertical, resulting in wider but shorter uterine dimensions. The "hard" fetal pole (head) will be palpated on either side of the abdomen.

18. a. 1) Explain everything to the relatives.
2) Refer the patient to the hospital with a referral sheet.
- b. Explain to the relatives and the midwife (TBA) about the dangers for the mother and the baby if the referral to the hospital is not complied with. Try to make the decision makers responsible for the outcome of the pregnancy.
19. a. 1) Placenta previa means the placental site of insertion within the uterus is located near or across the internal cervical opening.
2) Abruptio placenta means a part of the placenta separates from the uterus before delivery of the fetus.
20. Clinical differences between the two most frequent causes of bleeding during labor/pregnancy:

<u>SYMPTOMS</u>	<u>PLACENTA PREVIA</u>	<u>ABRUPTIO PLACENTA</u>
Bleeding	ALWAYS PRESENT	NOT ALWAYS EVIDENT
Abdominal pain	NONE REPORTED	PRESENT

SIGNS

Blood pressure	LOW - NORMAL	LOW - NORMAL
Uterine sensitivity	NONE	NONE
Uterine tone	TENDER	MAY BE HARD

21. a. 1) Explain all that is pertinent to the relatives.
 2) Refer to the hospital with a referral sheet.
- b. 1) Explain to the relatives and the midwife about the dangers for the mother and the baby if the referral is not complied with.
 2) Recommend bed rest.

22. Clinical findings at different maternal organs in cases of uterine atony (no immediate involution), placental retention, and laceration of the female reproductive tract:

	<u>UTERINE ATONY</u>	<u>PLACENTAL RETENTION</u>	<u>LACERATIONS</u>
UTERUS	Soft	Alternates between hard and soft	Hard
PLACENTA	Delivered	Partial or total retention.	Delivered
VAGINA/CERVIX	Normal	Normal	Lacerated

23. a. 1) Explain everything to the relatives.
 2) Carry out vigorous uterine massage.

- 3) Inject the mother with intramuscular (thigh) oxytocin or methergine.
 - 4) Try to favor placental delivery by pushing the uterine fundus up while exerting soft but firm downward traction of the umbilical cord, following the direction of the birth canal.
 - 5) If the placenta has been delivered, uterine massage must be carried out to promote uterine involution and the expulsion of blood clots.
 - 6) Have the mother drink liquids abundantly at the health center/post and during the trip to the hospital.
 - 7) Refer to the hospital with a referral sheet.
- b.
- 1) Explain about the dangers of not complying with the patient's referral to the hospital.
 - 2) Give a vigorous uterine massage.
 - 3) Inject the mother with intramuscular (thigh) oxytocin or methergine.
 - 4) Try to favor placental delivery by pushing the uterine fundus up while exerting soft but firm downward traction of the umbilical cord, following the direction of the birth canal.
 - 5) If the placenta has been delivered, uterine massage must be carried out to promote uterine involution and the expulsion of blood clots.
 - 6) Have the mother drink liquids abundantly at the health center/post and insist on the importance of

continuing a generous ingestion of fluids. This increases the circulating volume and may prevent hypotension (shock).

24. Puerperal infection or sepsis refers to the upward microbial colonization of the uterus from vaginal or cervical bacteria after and during delivery which results in an infectious disease which tends to propagate.
25. a. Fever.
b. Hypotension.
c. Tachycardia.
d. Dyspnea.
e. Confusion and/or anxiety.
f. Hypothermia.
26. Questions to ask:
1. When was your baby born?
 2. Have you noticed fever?
 3. Is there pain located within the abdomen or the pelvic region?
 4. Have you noticed a foul vaginal discharge?

Parameters to examine during physical evaluation:

1. Abdominal palpation to establish the presence of pain.
2. Measure her body temperature.
3. Examine the vulva to establish the presence of vaginal

discharge, its color, odor and approximate volume.

27. a. 1. Explain the problem to the family.
2. Give an initial, intramuscular doses of:
Penicillin (800,000 units IM) or ampicillin (500 mg per os), plus chloramphenicol (500 mg PO) at the health post/center.
3. Give aspirin.
4. Insist on increasing liquid ingestion.
5. Refer to the hospital with a referral sheet.
- b. 1. Explain the problem to the relatives.
2. Prescribe and administer the following antibiotic treatment:
Penicillin (800,000 Units IM every 12 hours during 10 days) or ampicillin (500 mg PO every 6 hours during 10 days), plus chloramphenicol (500 mg PO every 6 hours during 10 days);
3. Give aspirin.
4. Insist on increasing liquid ingestion.
5. Daily home visits to the patient (or as often as possible).
28. a. The baby does not suck on the mother's breast or does so very weakly.
- b. Hypothermia (the baby's body feels cold), or hyperthermia (the baby's body feels hot);

- c. The baby seems dismayed or lethargic.
 - d. Changes in the baby's skin color: blue or pale or too red.
 - e. Irritable (the baby cries too much too often; the baby seems agitated).
 - f. Diarrhea.
 - g. Vomit.
 - h. Apnea: paused breathing.
- 29.
- a. Fever/maternal infection.
 - b. Foul amniotic fluid.
 - c. Prolonged rupture of the membranes (greater than 24 hours before delivery).
 - d. Prematurity or/and low birth weight.
 - e. Prolonged labor.
- 30.
- a. About feeding: Is the baby thriving and eating well? If he is not, when did he stop feeding well? Has it been so for a few days, hours...? Does the baby's mouth feel too warm when he is breast feeding? Does the mother think the baby is feeding well?
 - b. About gastrointestinal signs: Has the baby vomited or does he have watery stools (diarrhea)? For how long and how many times has this occurred?
 - c. Is the baby crying too much too often? How long has this been so?
 - d. Has the baby been flaccid or lax lately? For how long?

48

e. Does the baby have irregular or paused breathing patterns?

31. b.
- 1) Explain to the relatives about the devastatingly fast time it could take the baby to die.
 - 2) Breast feed the baby as much as possible during his trip to the hospital.
 - 3) Keep the baby warm during the trip to the hospital (clothe him well; even using a bonnet and stockings; try to keep him in as close contact with the mother's body as possible).
 - 4) Start antibiotics at the health center/post (administer at the thigh's external surface):
75 mg of ampicillin/kg body weight plus 2.5 mg of IM gentamicin/kg body weight.
 - 5) Refer to the hospital with a referral sheet.

- b.
- 1) Explain to the relatives about the devastatingly fast time it could take the baby to die.
 - 2) Breast feed the baby as much as possible.
 - 3) Keep the baby warm (clothe him well; even using a bonnet and stockings; try to keep him in as close contact with the mother's body as possible).
 - 4) Administer (at the thigh's external surface) the following antibiotics, every 12 hours, during 10 days:
75 mg of ampicillin/kg body weight plus 2.5 mg of IM gentamicin/kg body weight.

32. A premature baby is delivered before completing 37 weeks of gestation (or before 9 months). Low birth weight means the baby weighed less than 2500 gm (5 lb and 8 ounces).
33. a. Hypothermia/hypoglycemia.
b. Sepsis.
c. Respiratory distress or difficulty.
34. a. The baby does not feed well anymore.
b. If the baby's birth weight is less than 2000 gm (4.5 lb),
c. If there are any other complications present, such as sepsis, the baby must be referred to a hospital.
35. Washing one's hands.
36. a. 1) Breast feed the baby during the trip to the hospital.
2) Keep the baby warm during the trip to the hospital (clothe him well; even using a bonnet and stockings; try to keep him in as close contact with the mother's body as possible).
3) Make arrangements so that there is an adequate supply of the mother's milk for the baby at the hospital.
4) Refer to the hospital with a referral sheet.
- b. 1) Breast feeding:
- Feed the baby exclusively with breast milk (no

water, no tea, no oil, etc.);

- Feed the baby its mother's milk at least every 2 hours (if the baby cannot suck well, feed him with a dropper);

2) Keep the baby warm (clothe him well; even using a bonnet and stockings; try to keep him in as close contact with the mother's body as possible; have him sleep with the mother; surround him with hot water bottles wrapped in towels, etc.).

3) Instruct the family about signs and symptoms of sepsis, respiratory problems, gastrointestinal and bleeding disorders, etc.; also instruct them as to whom to go to for assistance in case these clinical findings appear);

4) Explain to the family that if the baby stops feeding well (does not suck well anymore), he must be taken to the hospital immediately for evaluation.

37. a. Clothe the baby well, even with a bonnet and stockings.
- b. Keep him as close to the mother as possible; have them sleep together; (even skin to skin).
- c. Use hot water bottles wrapped with towels around the baby to keep him warm.
- d. Avoid gusts of wind from affecting the baby.

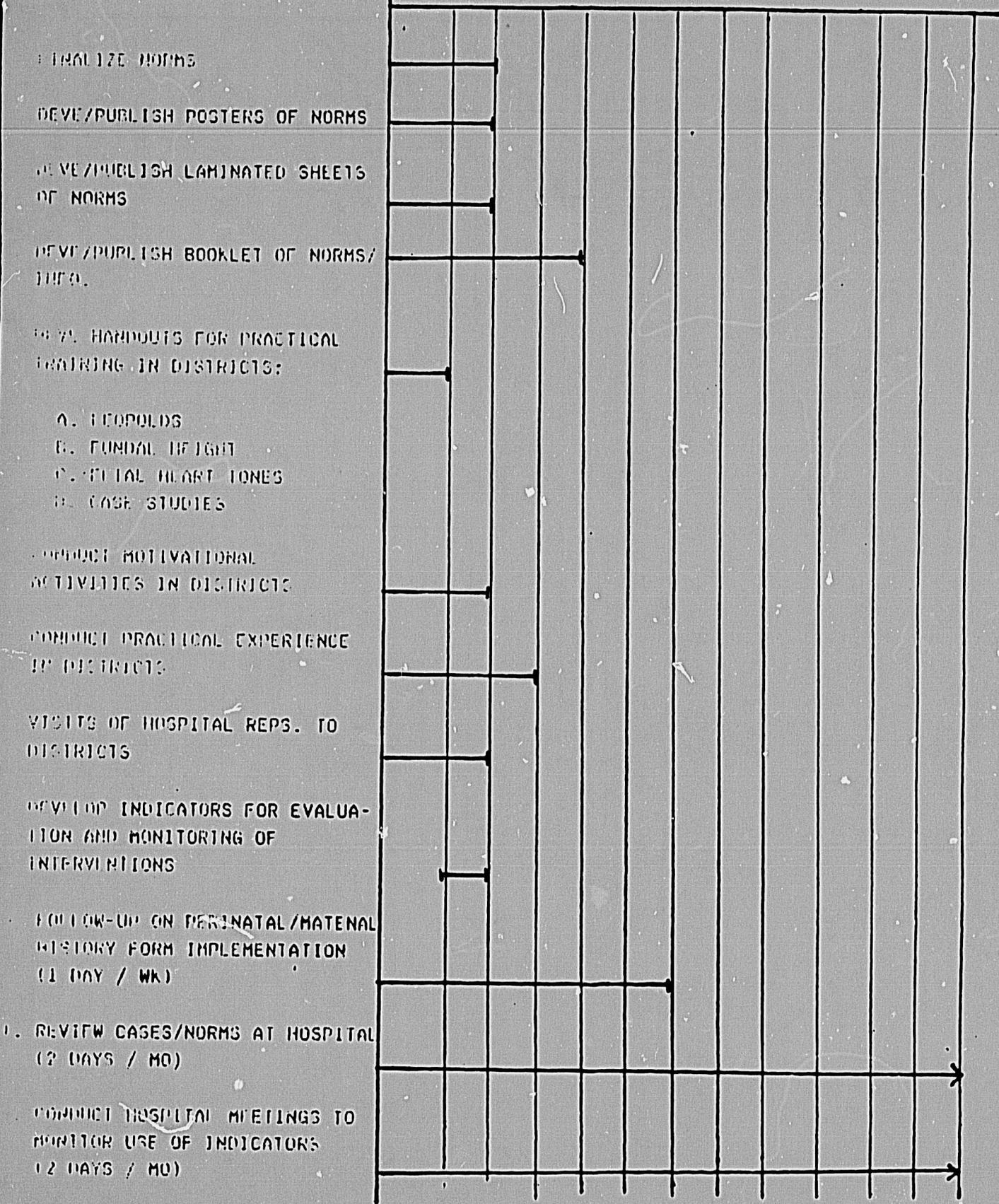
APPENDIX G

WORKPLAN

1990

1991

APR MAY JUN JUL AUG SEP OCT NOV DIC JAN FEB MAR



1991

1992

APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR

CONDUCT DISTRICT MEETINGS TO REVIEW CASES AND MONITOR INDICATORS. (5 DAYS / MO)

PRESENT DATA OF NEONATAL/MATERNAL MORTALITY STUDIES TO HOSPITALS (2)

DEVELOP TOT TRAINING CURRICULUM MATERIALS (5 WK)

DEVELOP TBA CURRICULUM/ MATERIALS (5 WK)

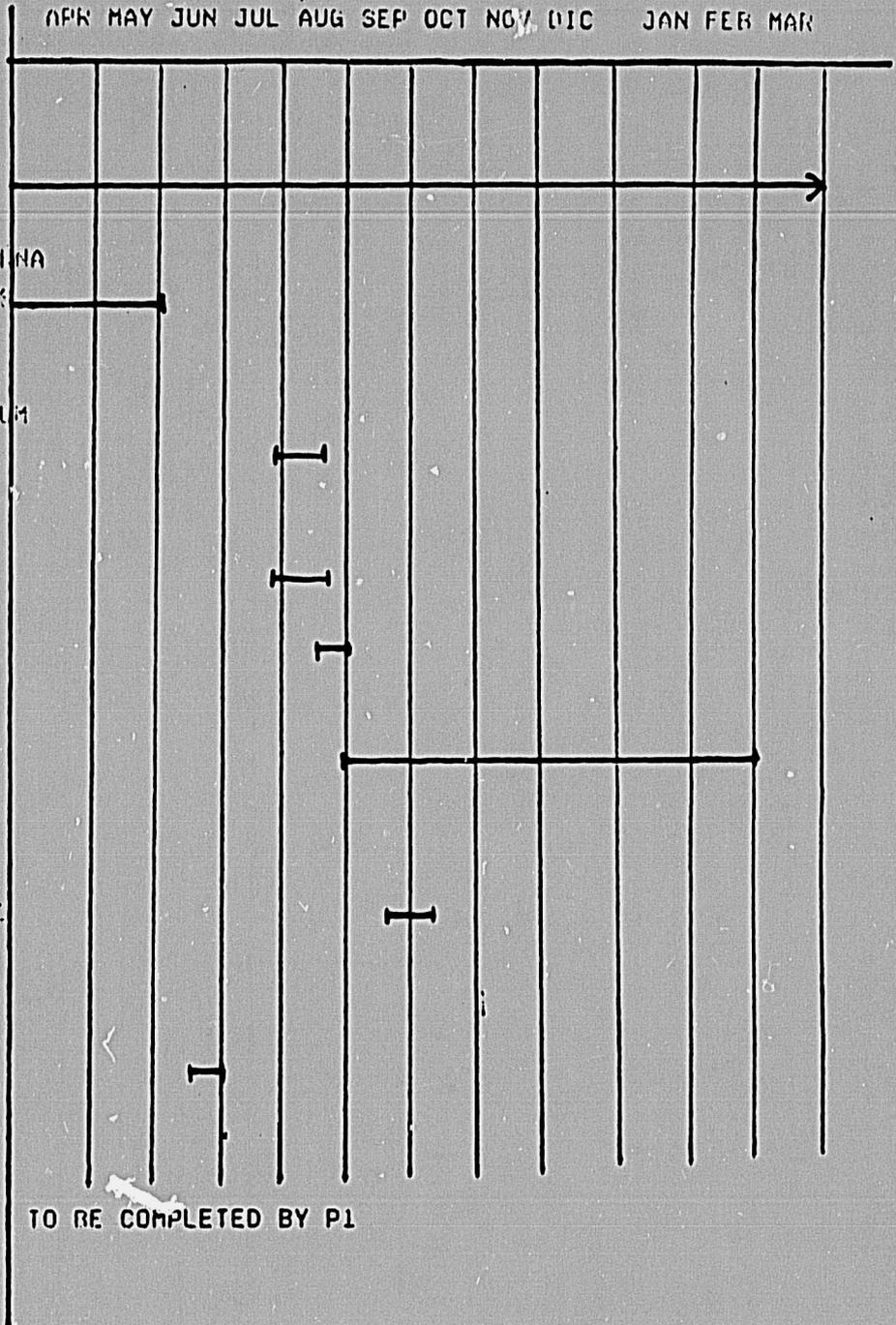
CONDUCT TOT TRAINING (2WK)

CONDUCT TBA TRAINING (3 DAYS 1 WK EACH TRAINING)

CONDUCT POST TOT / TBA WORKSHOP EVALUATION AND DIVISION OF TRAINING MATERIALS (2 WK)

PREPARE FOR AND ATTEND NCIA CONFERENCE (2 WEEKS)

EVALUATION COMPONENT



TO BE COMPLETED BY P1

94

APPENDIX H

rec. 2011/01
by 11/21/11
11/21/11

MINISTRY OF PUBLIC HEALTH AND SOCIAL ASSISTANCE
DIRECTION OF HEALTH SERVICES
QUETZALTENANGO HEALTH AREA

G E N E R A L N O R M S

FOR THE

REFERRAL AND REFERRAL RESPONSE SYSTEM

GENERAL NORMS

1. The referral and referral response system for the Quetzaltenango Health Area will be governed by the organizational structure of the area and in accordance with the level of existing care, in the following order:
 - Community level (Rural Health Promoter and midwives) to
 - First Level: Health Post, then to
 - Second Level: Health Center and from here to
 - Third Level: National Hospital.

In case of an emergency or before a lack of resources, any level must refer directly to the hospital.
2. All the health area's services are compelled to receive referrals from the services that, because of proximity or accessibility, deem best to send them.
3. All the services at the first and second levels will keep strict control of the referrals and referral responses that are carried out.
4. Any service that receives a referral is compelled to elaborate a referral response.
5. All referrals or responses made to referrals must be stamped and accompanied by the legible signature and the position of the signee.

SPECIFIC NORMS FOR THE HEALTH SERVICES

1. Every patient that is referred from the community level, the first level, second level and third level must be attended to as soon as possible and with highly humane quality.
2. The person who orders the referral must instruct the patient's family adequately regarding the transfer and do so with the promptness each case calls for.
3. At all the levels of the system, the persons who are responsible for carrying out the referral and the response to the referral must fill out the corresponding format in original and copy, with the correlate number for filing and control.
4. If the case calls for it, all referred patients must receive initial treatment at the service (center), which must be recorded in terms of dosage administered, time of administration and route of administration.
5. Voluntary personnel (traditional midwives and promoters) will continue referring to the established levels using the existing formats.
6. When the traditional midwife or the rural health promoter refers a patient, the response to the referral will be addressed to the health center or health post in order that these local services may identify the midwife and/or promoter as well as the patient's place of origin.

SPECIFIC NORMS FOR THE HOSPITAL LEVEL

1. The referral sheet must be a part of the clinical record if the patient is hospitalized.
2. If the cause of referral is solved at the emergency ward, the event must be recorded in the emergency ward's records or in a file specifically designed to his effect.
3. The person responsible for the response to the referral must be either the resident physician and/or the physician on duty.
4. The patient must be told that the care he will be receive at the health center or the hospital will be in accordance to the condition's degree of severity and as an emergency situation.
5. If the patient is referred to the hospital's outpatient clinic, he or she must attend within the established working hours of the clinic.

REFERRAL SHEET

DATE: _____ TIME: _____

NAME OF THE PATIENT: _____

CLINICAL RECORD NUMBER: _____

PATIENT'S ADDRESS: _____

PLACE WHERE THE REFERRAL ORIGINATED:

HEALTH POST: _____ HEALTH CENTER: _____ HOSPITAL: _____

REASON FOR REFERRAL: _____

IMPORTANT HISTORY/ANTECEDENTS: _____

TREATMENT ADMINISTERED: _____

NAME, SIGNATURE AND POSITION OF THE REFERRAL ORIGINATOR: _____

STAMP OR SEAL

RESPONSE TO THE REFERRAL

DATE: _____ TIME: _____

NAME OF THE PATIENT: _____

CLINICAL RECORD NUMBER: _____

REFERRED BACK TO:

HEALTH POST: _____ HEALTH CENTER: _____ HOSPITAL: _____

FINAL DIAGNOSIS: _____

ESTABLISHED TREATMENT:

RECOMMENDATIONS: _____

NAME, SIGNATURE AND POSITION OF THE REFERRAL RESPONSE ORIGINATOR: _____

STAMP OR SEAL

INSTRUCTIONS MANUAL

REFERRAL SHEET

1. DATE: WRITE DOWN THE EXACT DATE (DAY, MONTH AND YEAR) AND TIME OF REFERRAL.
2. NAME OF THE PATIENT: PLACE THE FIRST AND LAST NAMES AS PRECISELY AS THE PATIENT CAN EXPRESS.
3. NUMBER OF THE CLINICAL RECORD: PLACE THE CLINICAL RECORD NUMBER THAT CORRESPONDS THE CENTER'S FILES.
4. PATIENT'S ADDRESS: DESCRIBE AS PRECISELY AS POSSIBLE THE LOCALITY WHERE THE PATIENT LIVES (VILLAGE, CANTON, MUNICIPALITY).
5. PLACE WHERE THE REFERRAL ORIGINATED: WRITE DOWN THE NAME OF THE HEALTH POST , HEALTH CENTER OR HOSPITAL FROM WHICH THE PATIENT WAS REFERRED.
6. REASON FOR REFERRAL: DESCRIBE SIGNS, SYMPTOMS AND PHYSICAL FINDINGS WHICH COMPRISE THE CAUSE OF REFERRAL.
7. IMPORTANT HISTORY/ANTECEDENTS: - ANNOTATE ALL THE ANTECEDENTS OF IMPORTANCE THAT WERE FOUND DURING CLINICAL ASSESSMENT (SURGICAL, FAMILY, PERSONAL, OBSTETRICAL, SURGICAL AND TRAUMATIC ANTECEDENTS).
8. TREATMENT ADMINISTERED: THE AMOUNT AND NAME OF THE MEDICATION GIVEN, THE ROUTE OF ADMINISTRATION AND THE TIME OF ADMINISTRATION MUST BE REGISTERED. IF NO MEDICATION WAS ADMINISTERED, WRITE DOWN "NONE".
9. NAME, SIGNATURE AND POSITION OF THE PERSON MAKING THE REFERRAL: WRITE DOWN THE EXACT NAME OF THE PERSON WHO DID THE

CLINICAL EXAMINATION OF THE PATIENT AS WELL AS HIS (HER)
SIGNATURE AND THE CORRESPONDING SEAL FROM THE CENTER SENDING
THE REFERRAL.

INSTRUCTIONS FOR RESPONSE TO THE REFERRAL

1. DATE: WRITE DOWN THE EXACT DATE (DAY, MONTH AND YEAR) AND TIME OF REFERRAL RESPONSE.
2. NAME OF THE PATIENT: PLACE THE FIRST AND LAST NAMES AS PRECISELY AS THE PATIENT CAN EXPRESS.
3. REFERRED BACK TO: WRITE DOWN WITH CLARITY THE PLACE/CENTER WHERE THE PATIENT IS BEING REFERRED BACK TO AFTERWARDS.
4. FINAL DIAGNOSIS: STATE CONCRETELY THE DIAGNOSIS REACHED UPON PATIENT EVALUATION AND DESCRIBE CONCISELY THE CLINICAL PROBLEMS THAT WERE FOUND.
5. ESTABLISHED TREATMENT: INDICATE THE DOSES, DAY(S) AND GENERIC NAME (COMMERCIAL) OF THE PHARMACEUTICAL ADMINISTERED, AS WELL AS ALL THE CLINICAL PROCEDURES PERFORMED (SURGERY, WOUND DRESSING, ETC.) AND THE RELEVANT LABORATORY RESULTS OBTAINED.
6. RECOMMENDATIONS: WRITE DOWN ANY TYPE OF RECOMMENDATIONS OR SUGGESTIONS THAT ARE NECESSARY FOR ADEQUATE PROGRESS AND PATIENT FOLLOW UP.
7. NUMBER OF THE CLINICAL RECORD: IF THE PATIENT SPENT TIME IN ONE OF THE HOSPITALIZATION SERVICES OR IN THE EMERGENCY WARD, WRITE THE NUMBER OF THE RECORD GIVEN TO THE PATIENT FROM THE HEALTH CENTER'S OR THE HOSPITAL'S FILES.
8. NAME, SIGNATURE AND POSITION OF THE PERSON DOING THE REFERRAL RESPONSE: WRITE DOWN THE EXACT NAME OF THE PERSON WHO DID THE CLINICAL EXAMINATION OF THE PATIENT AS WELL AS HIS (HER) SIGNATURE AND THE CORRESPONDING SEAL FROM THE CENTER MAKING THE REFERRAL RESPONSE

APPENDIX I

INSTRUCTIVO PARA LA FICHA DE CONTROL MATERNA

DATOS DEL ESTABLECIMIENTO

1. Número de Registro Clínico
Colocar el número de registro que corresponde según su archivo.
2. Servicio de Salud
Colocar una "X" a la respuesta que corresponde ej.:
Si está en un Centro de Salud colocar la "X" en el espacio después del Centro de Salud.
3. Area de Salud
Colocar Quetzaltenango.
4. Nombre del Servicio
Colocar el nombre del establecimiento
Ej.: Palestina de los Altos
Concepción Chiquirichapa.
5. Fecha de Primera Consulta
Colocar el día, mes y año en el espacio correspondiente.

DATOS GENERALES DE LA MADRE

6. Nombre y Apellidos
Colocar el nombre y apellido más exacto que puede obtener de la paciente.
Edad
Colocar edad del paciente en años cumplidos.
7. Estado Civil
Colocar "X" en la opción que corresponda al caso, la diferencia importante es si tiene unión estable o no.
8. Domicilio
Describir lo más preciso posible la localidad donde vive la paciente.
Ej.: Aldea + caserío + paraje.
9. Ocupación de la madre
Especificar si es ama de casa, vendedora, etc.
10. Escolaridad
Colocar "X" en la opción que corresponde.

DATOS GENERALES DEL ESPOSO

11. Datos del Conyuge. Colocar:

Nombre Completo.

Ocupación del Conyuge

Ej.: Agricultor, asalariado, etc.

12. Alfabeto

Colocar "X" en SI o NO, si esposo sabe leer y escribir.

ANTECEDENTES

13.1 Antecedentes Familiares

Colocar una "X" en si o no según responda la paciente en cada antecedente.
Colocar alguna observación si fuera necesario.

13.2 Antecedentes Personales

Colocar una "X" en si o no según responda la paciente en cada antecedente.
Y colocar alguna observación si fuera necesario.

13.3 Antecedentes Quirúrgicos y Traumáticos

Anotar cesáreas, etc.

13.4 Antecedentes Ginecológicos

Anotar edad de menarquía.
El ritmo menstrual, Ej.: cada 28 días por 3 días.
Anotar número de gestas, partos y abortos.

13.5 Antecedentes Obstétricos

Colocar una "X" en si o no según responda la paciente en cada antecedente.
Colocar alguna observación si fuera necesario.
Además es conveniente colocar el número de eventos en la observación; Ejemplo: Número de abortos si es que tuvo.

13.6 Planificación familiar

Colocar SI en la casilla donde hay respuesta positiva y NO en el resto.

En observaciones se puede colocar la duración del uso del método, complicaciones presentadas, etc.

13.7 Partos Anteriores

Colocar el día, mes y año de cada parto anterior; colocar el lugar donde nació el bebe (Ej: casa, hospital); que tipo de parto fue (parto vaginal simple, cesárea, etc.).
Anotar la duración del trabajo de parto (en horas), el sexo del niño, el peso al nacer (en libras), y si tuvo o no lactancia materna.
Además colocar eventos del puerperio y otras

EMBARAZO ACTUAL

14. A. Fecha de última regla
Colocar el día, mes y año de la última regla.
- B. Fecha de parto probable.
Colocar día, mes y año.
15. Examen Físico
Colorcar los hallazgos del examen físico al lado de cada aspecto evaluado, en números, Ej. Peso: 120 lbs., talla: 150 cm., pulso: 80 x'.
En examen físico de cabeza, mamas, corazón, aparato respiratorio y miembros inferiores colocar "SI", si es normal y "NO" si no es normal, y especificar en observaciones.
- 15.1 Examen Obstétrico
Situación: Longitudinal = L
 Transversa = T
Presentación: Cefálica = C
 Podálica = P
Altura uterina en centímetros
Semanas estimadas = Por altura uterina
Semanas calculadas = Por fecha de última regla.
- 15.2 Examen Ginecológico
Creemos que no debe hacerse (debe discutirse).
16. Clasificación del tipo de riesgo.
17. Referida a:
En caso de referir a la paciente.
18. Próxima cita:
Colocar fecha.
19. Laboratorio y vacunas
Colocar fechas de aplicación del toxoide tetánico
20. Nombre del Examinador
Colocar nombre de quién examinó al paciente y luego la firma.

21. Reconsultas

Colocar "X" en hallazgos positivos de la lista, según la columna de cada fecha.

En la parte inferior de la lista están descritos aspectos del examen físico como pulso, peso, etc., donde hay que colocar hallazgos en número (FC por minuto, etc.)

Hay un espacio para tipo de riesgo y lugar sugerido para atención donde según los hallazgos e historia debe decidirse si la paciente es de alto riesgo y donde debe tener su parto.

Anotar próximas citas y si se le dejó hierro, prenatales, etc. a la paciente. Anotar el nombre de la persona que atendió la paciente.

22. Evolución del Peso (?)

23. Atención aborto o parto

Colocar fechas en que ocurrieron los eventos.

Edad en semanas del feto y el lugar de atención (casa, hospital).

Luego llenar con "X" los datos positivos del parto.

Llenar datos del recién nacido.

24. Control Puerperio

Anotar presión arterial, pulso y anotar en "SI" o "NO" con una "X", la presencia de complicaciones.

--	--	--	--	--	--	--	--

FICHA DE CONTROL MATERNO

2. SERVICIO DE SALUD HOSPITAL _____ CENTRO DE SALUD _____ PUESTO DE SALUD OTRO _____	3. AREA DE SALUD _____
4. NOMBRE DEL SERVICIO _____	5. FECHA DE PRIMERA CONSULTA _____ DIA _____ MES _____ AÑO _____

6. NOMBRES Y APELLIDOS _____	EDAD AÑOS _____	7. ESTADO CIVIL _____ UNION ESTABLE _____ SOLTERA _____
8. DOMICILIO _____	9. OCUPACION _____	10. ESCOLARIDAD PRIMARIA _____ SECUNDARIA _____ OTRO _____
11. DATOS DEL CONYUGE NOMBRE _____	OCUPACION CONYUGE _____	12. ALFABETA SI _____ NO _____

13.1 FAMILIARES	SI	NO	OBSERVACIONES	13.2 PERSONALES	SI	NO	OBSERVACIONES
T. B. PULMONAR				T. B. PULMONAR			
DIABETES				DIABETES			
HIPERTENSION				HIPERTENSION			
ENF. MENTAL				ENF. MENTAL			
CARDIOPATIAS				CARDIOPATIAS			
ENF. RENAL				ENF. RENAL			
ENF. VENEREA				ENF. VENEREA			
ALCOHOLISMO				ALCOHOLISMO			
OTROS				ALERGIAS			
				OTROS			

13.3 QUIRURGICOS Y TRAUMATICOS (CESAREAS - CIRUGIA GINECOLOGICA) _____	13.4 GINECOLOGICOS MENARQUIA AÑOS, RITMO X OBSERVACIONES G. _____ P. _____ AB. _____
---	---

13.5 OBSTETRICOS	SI	NO	OBSERVACIONES	13.6 GINECOLOGICOS	SI	NO	OBSERVACIONES
HEMORRAGIAS				R. N. PESO BAJO AL NACER			
ABORTOS				MULTIPARIDAD			
MORTINATOS				PRESENTACION Y POSICION FETAL ANOMALA (PODALICA O TRANSVERSA).			
HIDRAMNIOS							
PREMADUREZ							
EMBARAZO PROLONGADO							
RECEN NACIDO CON ANOMALIAS CONG.				OTROS			

13.6 PLANIFICACION FAMILIAR. PASTILLAS <input type="checkbox"/> INYECCIONES <input type="checkbox"/>	DIU <input type="checkbox"/> CONDONES <input type="checkbox"/>	CREMA VAGINAL <input type="checkbox"/> TAB. VAGINAL <input type="checkbox"/>	OBSERVACIONES
---	---	---	---------------

13.7 PARTOS ANTERIORES				TIPO DE PARTO	TIEMPO DE TRABAJO DE PARTO	SEXO	PESO	LACTANCIA MATERNA	PUERPERIO Y OBSERVACIONES
DIA	MES	AÑO	LUGAR DE ATENCION						

EMBARAZO ACTUAL	DIA	MES	AÑO	DIA	MES	AÑO
FECHA ULTIMA REGLA	b. FECHA PARTO PROBABLE					

EX FÍSICO

15. PESO: TALLA: PULSO: TEMP.: PRESION ARTERIAL:

CABEZA: NL MAMAS: NL CORAZON: NL APARATO RESPIRATORIO: NL MIEMBROS INFERIORES: NL

OBSERVACIONES:

EX OBSTETRICIA

15.1 ABDOMEN: INSPECCION ALTURA UTERINA: cm.

PALPACION SITUACION L T PRESENTACION C P FOCO FETAL

SEMANAS ESTIMADAS _____ SEMANAS CALCULADAS _____

15.2 GENITALES EXTERNOS: FLUJO VAGINAL

VAGINA NL CERVIX _____ CUERPO UTERINO _____

VALORACION PELVICA _____ NO SE PRACTICO:

16. TIPO DE RIESGO

ALTO BAJO

17. REFERIDA A: _____ 18. PROXIMA CITA: _____

DIA MES AÑO

19. LABORATORIO Y VACUNAS

ORINA			HEMATOLOGIA				CITOLOGIA		VACUNACION TOXOIDE TETANICO	
FECHA			FECHA				FECHA		FECHA	
COLOR			HB				NORMAL POSITIVO OBSERV	1 ^{ra} DOSIS		
RAV. PECIF.			HT					2 ^a DOSIS		
BUMINA			GB					3 ^{ra} DOSIS		
OBULOS ANCOS			VS					REFUERZO		
OBULOS OJOS			HECES				OTROS EXAMENES Y OBSERVACIONES:			
PROS				VDRL	GRUPO	RH				
			PA-CIENTE							
			CON-YUGE							

NOMBRE DE QUIEN EXAMINO _____ FIRMA: _____

CARGO: _____

APPENDIX J

CONCLUSIONES REUNION PERSONAL

HOSPITALARIO CON AREA PREVENTIVA

1. DISPOSICION DE INTEGRACION DE LOS SERVICIOS
2. ELABORACION Y NORMATIZACION DEL INSTRUMENTO DE REFERENCIA Y CONTRAREFERENCIA.
3. VISITAS DEL PERSONAL HOSPITALARIO A PUESTOS Y CENTROS DE SALUD.
4. NO HAY RACIONALIZACION EN EL USO DE INSUMOS PARA OPTIMIZACION DE LOS SERVICIOS PARA SER EFICIENTES Y EFICACES.
5. IMPORTANCIA DE LA RESPONSABILIDAD Y CAMBIO DE ACTITUD DE CADA UNO.
6. REUNION CON AUTORIDADES LOCALES Y EN PERSONAL VOLUNTARIO.
7. SEGUIMIENTO DE LA PRESENTE REUNION
8. CENSO o INVENTARIO DE LOS RECURSOS HUMANOS Y MATERIALES DE CADA SERVICIO (P/S Y C/S).
9. ELABORACION DEL INSTRUMENTO (PROFORMA) POR LA COMISION A INTEGRAR POR AREA COMUNITARIA Y HOSPITALARIA.
10. REUNION EL 12 ABRIL 1991, EN HOSPITAL GENERAL A LAS 8 A.M PARA INTERCAMBIO Y ANALISIS DE CADA DOCUMENTO.

PROPUESTA A PERSONAL HOSPITALARIO POR PARTE DE LOS SERVICIOS

(P/S Y C/S)

1. ELABORACION CONJUNTA Y NORMATIZACION DEL INSTRUMENTO DE REFERENCIA Y CONTRAREFERENCIA.
2. QUE SE TENGA LA DEFERENCIA Y SE LE DA LA ATENCION DEBIDA A CADA REFERENCIA, NO IMPORTANDO QUIEN LA HAGA.
3. QUE EN LA CONTRAREFERENCIA SE INCLUYA EL DX FINAL, TRATAMIENTO Y SEGUIMIENTO.
4. SE SUGIEREN REUNIONES PERIODICAS A ESPECTO DE EVALUAR EL FUNCIONAMIENTO DEL DOCUMENTO DE REFERENCIA Y RESOLVER LOS PROBLEMAS DETECTADOS.

COMISION PERSONAL QUE ELABORA NORMAS E INSTRUMENTNO
DE REFERENCIA Y CONTRAREFERENCIA FECHA 22

1. DR. AROLDO MARDOQUEO SUN / C/S CABRICAN
2. T.S.R. JUAN ELEAZAR GONZALES / C/S PALESTINA
3. T.S. NORA JUDITH DE MORALES / JEFATURA DE AREA
4. LICDA. CLARA LUZ BARRIOS / ENFERMERA JEFE DE AREA
5. ENF. AUXILIAR MAURILIA SILVA DE GRAMAJO/ C.S SIJA
6. AUX. ENFER./ ABIMAEEL PAZ P/S CHIQUIVAL
7. DR. EDGAR OTTO CIFUENTES GALVES C/S SAN CARLOS SIJA
8. TS.R JUDITH MENDEZ P/S/ CONCEPCION
9. ENF. AUXILIAR BERNA BARRIOS C/S SAN JUAN OSTUNCALCO
10. AUX. ENF. ERLA CIFUENTES SAN CARLOS SIJA

APPENDIX K

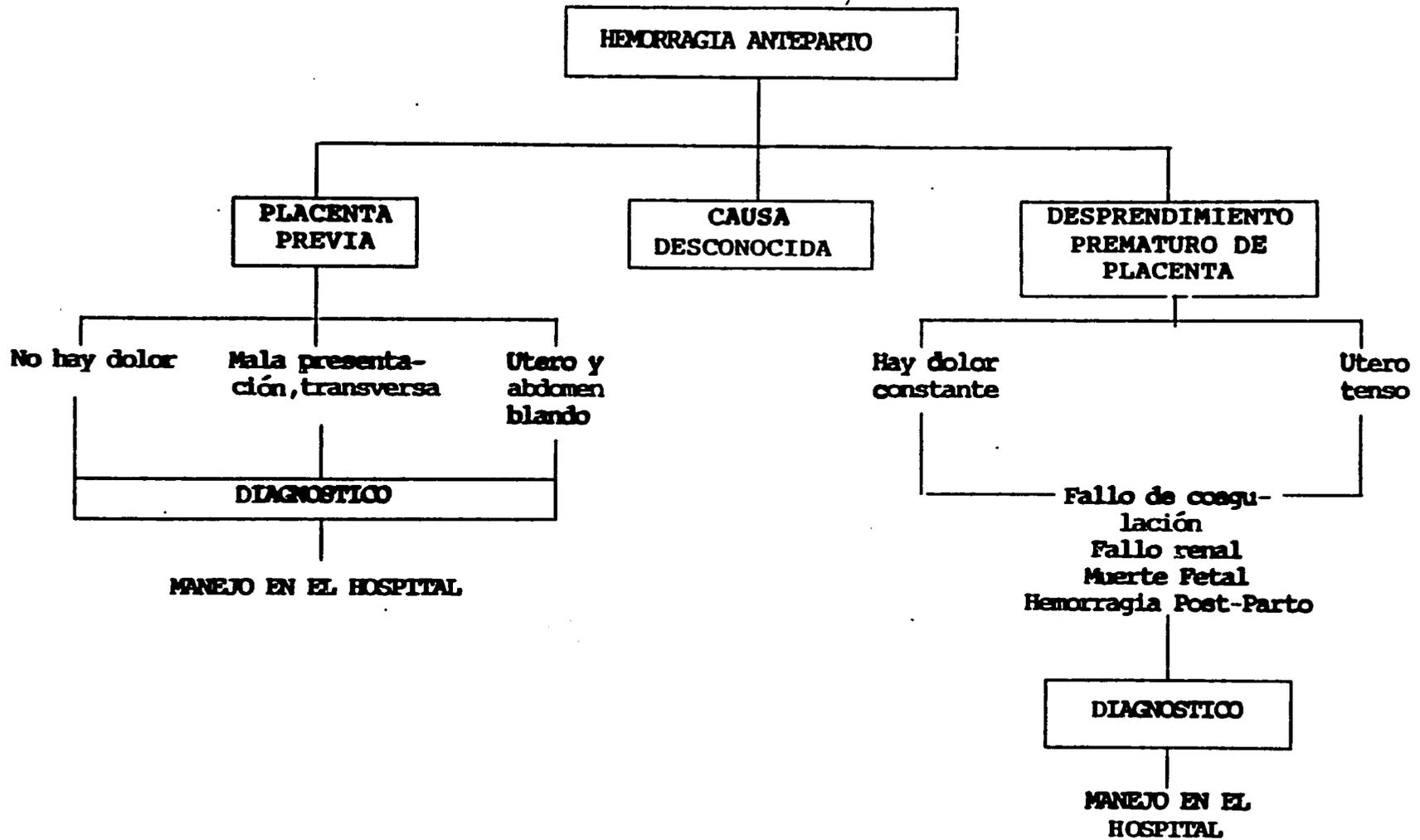
WORKSHOP HANDOUTS

INSTITUTO DE NUTRICION DE CENTRO AMERICA Y PANAMA
(INCAP)

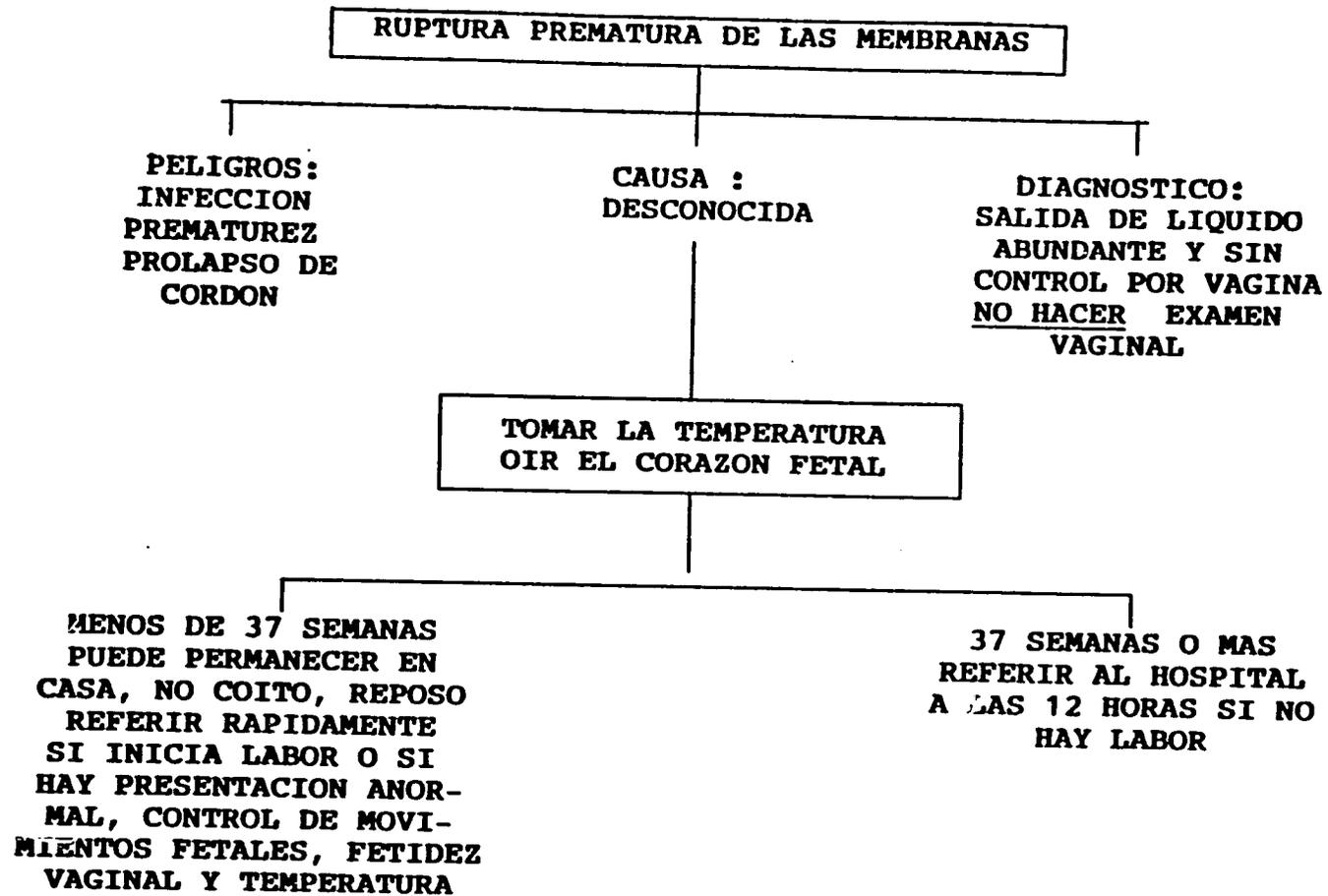
FORMULARIO DE INSCRIPCION

DATOS PERSONALES

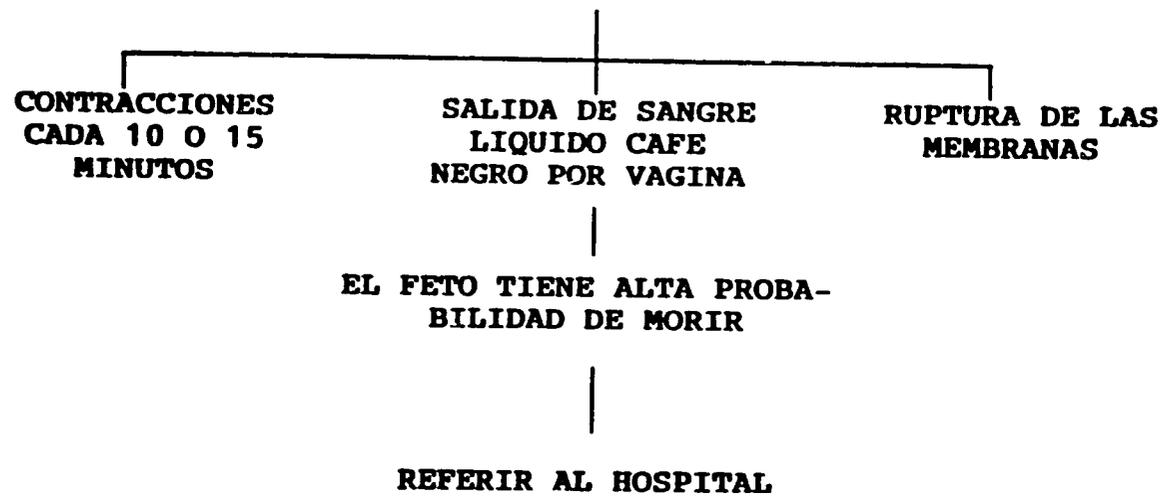
Título del evento en que participa: _____
Fechas del evento: _____
Nombre Completo: _____
Profesión: _____
Institución: _____
Cargo: _____
Dirección de la Institución: _____
Ciudad: _____ País: _____
Teléfono Oficina: _____
Número de Telex: _____
Número de Fax: _____
Dirección particular: _____
Ciudad: _____ País: _____
Teléfono particular: _____



11/9



TRABAJO DE PARTO PREMATURO



MALA PRESENTACION

NALGAS

HOMBROS

FRENTE

CARA

**MALA PRESENTACION EN LA LABOR
ASFIXIA, TRAUMA, MUERTE FETAL,
MUERTE MATERNA, TRABAJO DE PARTO
PROLONGADO (18 HRS. EN PRIMIGESTAS
12 HRS. EN MULTIPARAS).**

**REFERIR AL HOSPITAL
ANTES O DURANTE LA LABOR**

122

HEMORRAGIA POST-PARTO

**SI HAY ANTECEDENTES REFERIR PARA PARTO HOSPITALARIO
HACER ARREGLOS RAPIDOS Y TEMPRANOS PARA REFERENCIA**

**ATONIA UTERINA
(MULTIPARAS, LABORES PROLONGADAS, GEMELOS, OKTOCINA, DESPRENDIMIENTO PREMATURO DE PLACENTA)**

**OKTOCIOS IV O IM
OBTENER LA PLACENTA
MASAJE UTERINO
VER QUE LA PLACENTA
ESTE COMPLETA
REVISAR LA VAGINA
Y EL CERVIX
HISTERECTOMIA**

**SEPARACION
PARCIAL
DE LA PLACENTA
(EL UTERO ESTA
BLANDO Y ANCHO)**

**MASAJE UTERINO
DIRIGIR EL FONDO
DEL UTERO HACIA
ARRIBA Y EL
CORDON HACIA
ABAJO**

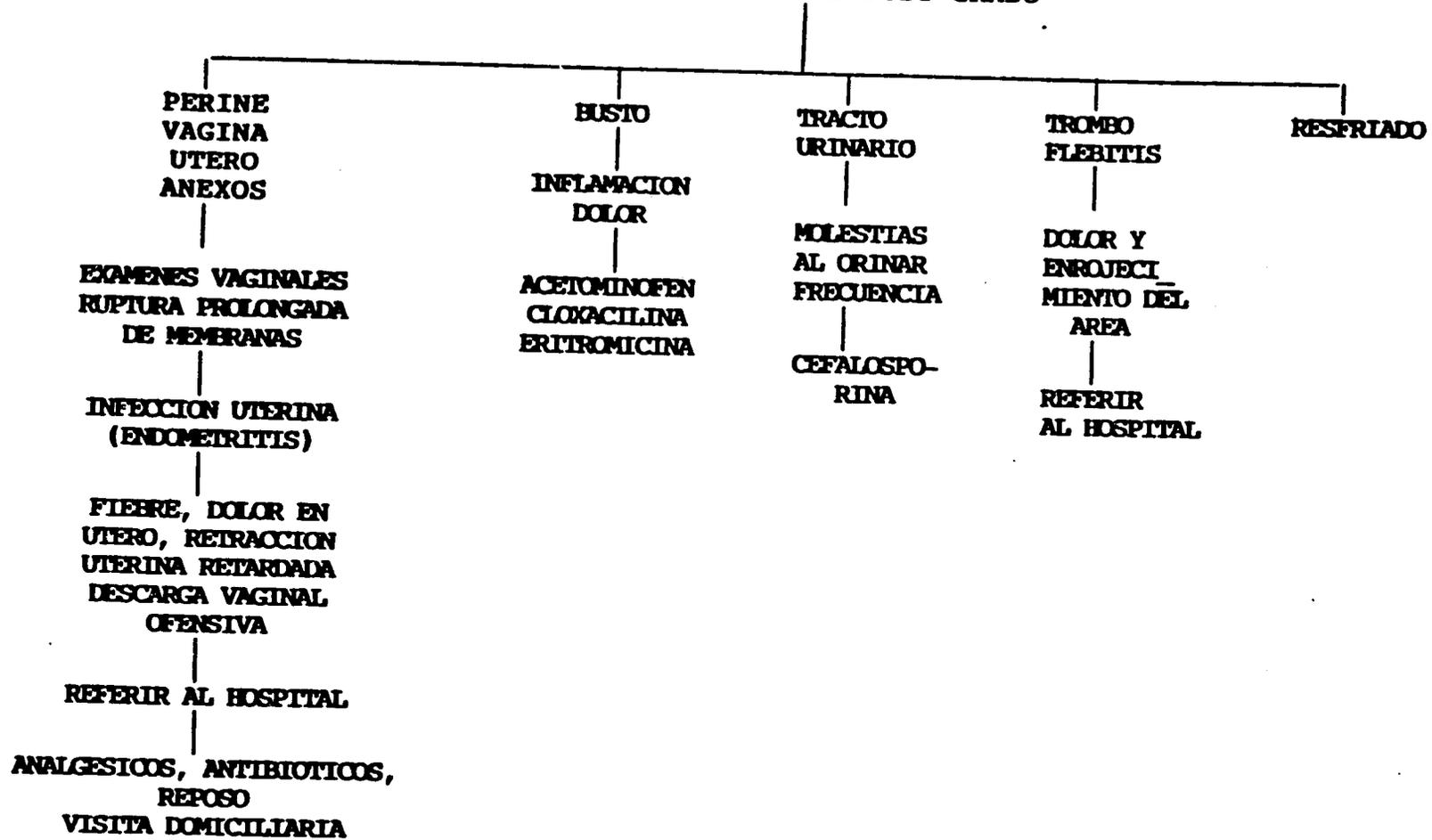
**RETENCION
DE RESTOS
PLACENTARIOS
O DE PLACENTA**

**EXPLORACION
MANUAL DEL
UTERO Y
LEGRADO**

TRAUMA

REPARACION

INFECCION EN EL POST-GRADO



124

"LA MANO" DE SINTOMAS DE PELIGRO

(RECIEN NACIDO)

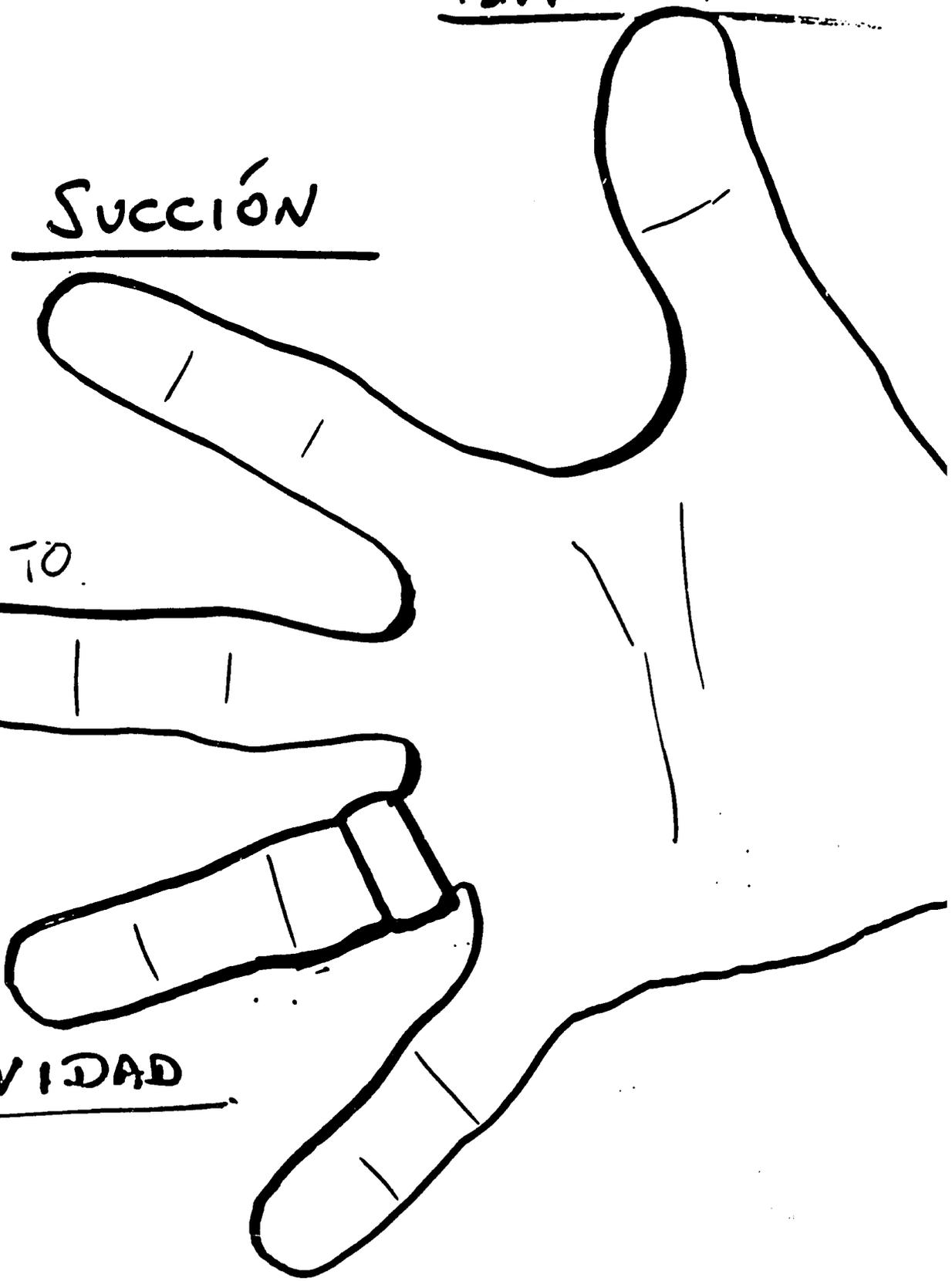
TEMPERATURA

SUCCIÓN

LANTO

ACTIVIDAD

RESPIRACIÓN



ALTO RIESGO NEONATAL

Capacitacion a Distritos

TEMAS:

Prematuridad y Bajo Peso
Sepsis, Lactancia Materna
y Asfixia Perinatal

Xela 18 Marzo de 1991

INCAP y

Dr. Mario R. Mejia Villatoro

DEFINICIONES:

PERIODO NEONATAL: Primeros 28 dias de vida de todo RN.

PREMATURO: RN que nace antes de las 37 semanas (259 dias), de Edad Gestacional, calculados a partir del dia de Ultima Regla.

BAJO PESO: RN con peso inferior a los 2,500 gramos (5 libras 8 Onzas), al momento de nacer.

RETRASO DEL CRECIMIENTO INTRAUTERINO: RN por debajo del 10 percentil para una determinada Edad Gestacional.

ATENCION INMEDIATA DEL RECIEN NACIDO:

NACIMIENTO

SECADO

DEPRIMIDOS

VIGOROSO

REANIMAR

COMPLETAR SECADO

**ENTREGAR A LA MADRE UNOS MINUTOS
PONERLO A SUCCIONAR EL PECHO
OBSERVACION CONTINUA**

**PROCEDIMIENTOS DE RUTINA
(LIGADO DE CORDON, EXAMEN DEL BEBE, PESARLO Y VESTIRLO)**

RECIEN NACIDO VIGOROSO

- 1.- Llora fuerte**
- 2.- Rosado**
- 3.- Se mueve al estimularlo**
- 4.- Buen Latido Cardiaco**
- 5.- No esta Flacido**

CUIDADOS INMEDIATOS DEL RECIEN NACIDO:

- 1.- Incentivar relacion RN-Familia**
- 2.- Incentivar Lactancia Materna**
- 3.- Proveer CALOR al RN**
- 4.- PREVENIR INFECCIONES**

PREMATURIDAD
Y
BAJO PESO

BAJO PESO Y PREMATURIDAD

- HIPOTERMIA
- HIPOGLUCEMIA
- SEPSIS

CONTROL DE LA TEMPERATURA

Problemas del Prematuro:

- 1.- Mayor superficie cutanea con respecto al peso del RN.
- 2.- Menor cantidad de grasa subcutanea (menor aislamiento)
- 3.- Depositos de grasa Parda menos desarrollados.
- 4.- El RN Prematuro y de Bajo Peso es incapaz de ingerir suficientes calorías para mantener su temperatura.

RELACION HIPOTERMIA-HIPOGLUCEMIA

HIPOTERMIA

VASOCONSTRICCIÓN PERIFÉRICA

CONSTRICCIÓN DE VASOS PULMONARES

MALA OXIGENACIÓN DEL RN

RIESGO DE HIPOGLUCEMIA

MAYOR CONSUMO DE OXÍGENO

ENFERMEDAD

MUERTE

- EL PROBLEMA MAS FRECUENTE QUE ENFRENTA EL RN PREMATURO Y DE BAJO PESO ES:
LA PERDIDA CALORICA A PARTIR DE UNA AGRESION CRONICA NO RECONOCIDA POR EL FRIO.
LA MISMA RESULTA EN UN CONSUMO EXESIVO DE OXIGENO Y DETENCION DE LA CURVA PONDERAL.

MECANISMOS DE PERDIDA DE CALOR

- 1.- RADIACION: Disipacion de CALOR del RN a un objeto mas frio de su medio ambiente.
- 2.- CONDUCCION: Perdida de CALOR del RN a la superficie en que yace.
- 3.- CONVECCION: CALOR perdido de la piel al aire en movimiento.
- 4.- EVAPORACION: Depende de la humedad y velocidad del aire.

AMBIENTE TERMICO-NEUTRAL:

SITUACION TERMICA EN QUE LA PRODUCCION DE CALOR ES MINIMA, MIENTRAS QUE LA TEMPERATURA INTERNA DEL CUERPO ESTA DENTRO DE LIMITES NORMALES.

TRATAMIENTO PARA EVITAR LA PERDIDA DE CALOR

- 1.- Secado del BEBE inmediatamente despues del nacimiento.
- 2.- Envolverlo en una toalla precalentada.
- 3.- NO BANARLO.
- 4.- Colocar gorro u otra cobertura de la cabeza.
- 5.- Ponerlo junto a la madre todo el tiempo.

HIPOGLUCEMIA

Problema frecuente en Recien Nacidos, especialmente en BEBES de BAJO PESO y PREMATUROS , y generalmente es signo de una enfermedad.

CUASAS EN EL RN PREMATURO/BAJO PESO

- 1.- DEPOSITOS DISMINUIDOS.
- 2.- DISMINUCION DE LA INGESTA.

SINTOMAS PRINCIPALES

Decaimiento
Temblores
Cianosis
Debilidad o llanto agudo
Mala Succion

PREVENCION DE LA HIPOGLUCEMIA

- 1.- Alimentacion temprana al seno Materno.
- 2.- Ambiente Termico-Neutral.
(evitar el enfriamiento)
- 3.- Prevenir Infecciones
 - Lavado de manos
 - Lactancia Materna

INFECCION NEONATAL

DEFINICIONES

FACTOR DE RIESGO: Condicion Materna, del Parto o del Recien Nacido que predisponen a una infeccion Neonatal.

- PREMATURIDAD \ BAJO PESO
- FIEBRE MATERNA
- LIQUIDO AMNIOTICO FETIDO
- ROTURA DE MEMBRANAS DE MAS DE 24 HORAS ANTES QUE NASCA EL BEBE
- TACTOS VAGINALES EN CONDICIONES SEPTICAS
- INFECCION MATERNA RECIENTE:
 - DIARREA
 - BRONCONEUMONIA
 - INFECCION URINARIA
- BEBE BANADO EN MECONIO

RIESGO DE SEPSIS: Lo tiene un RN que reune uno o mas factores de RIESGO DE SEPSIS.

SEPSIS: RN con signos y sintomas de infeccion.

FORMAS DE ADQUISICION DE UNA INFECCION NEONATAL

1.- VERTICAL:

Antes o durante el Parto.

2.- HORIZONTAL:

Transmitida por las personas que atienden al RN.

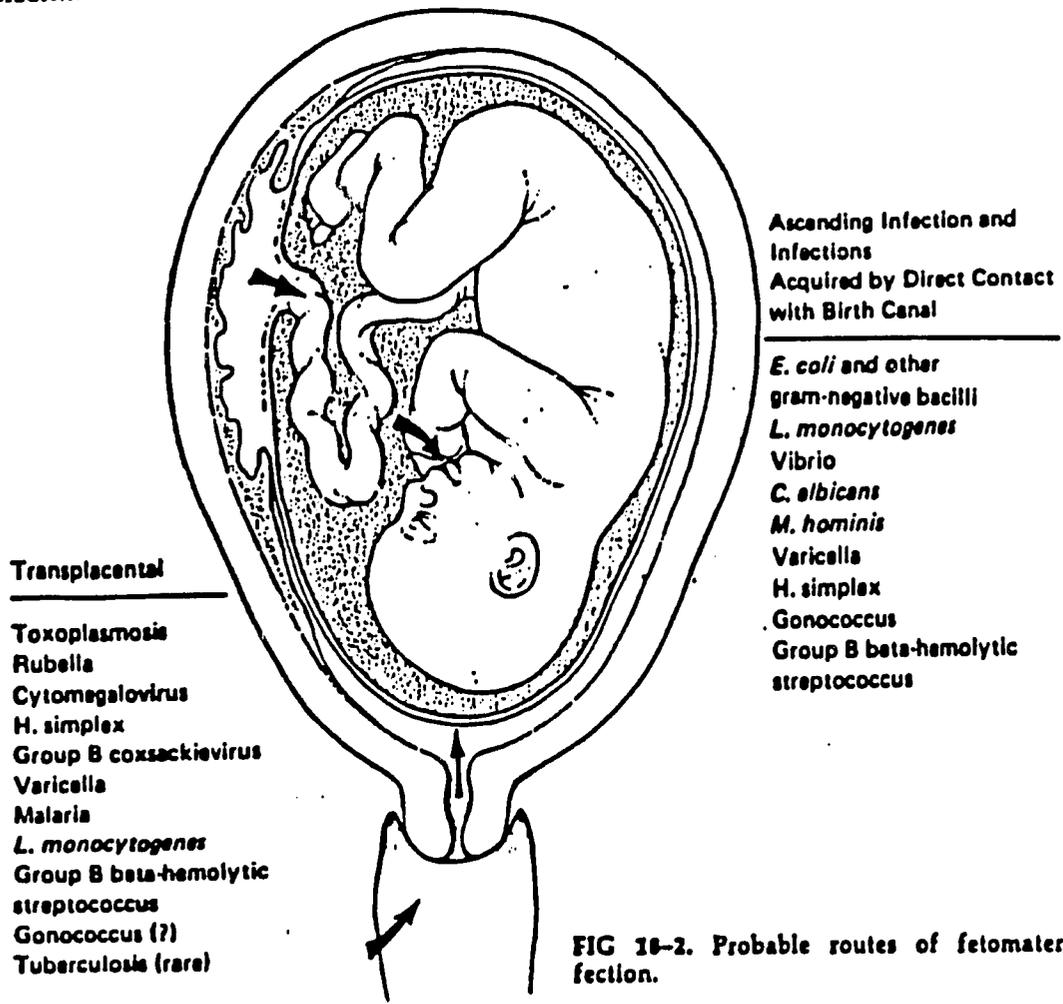
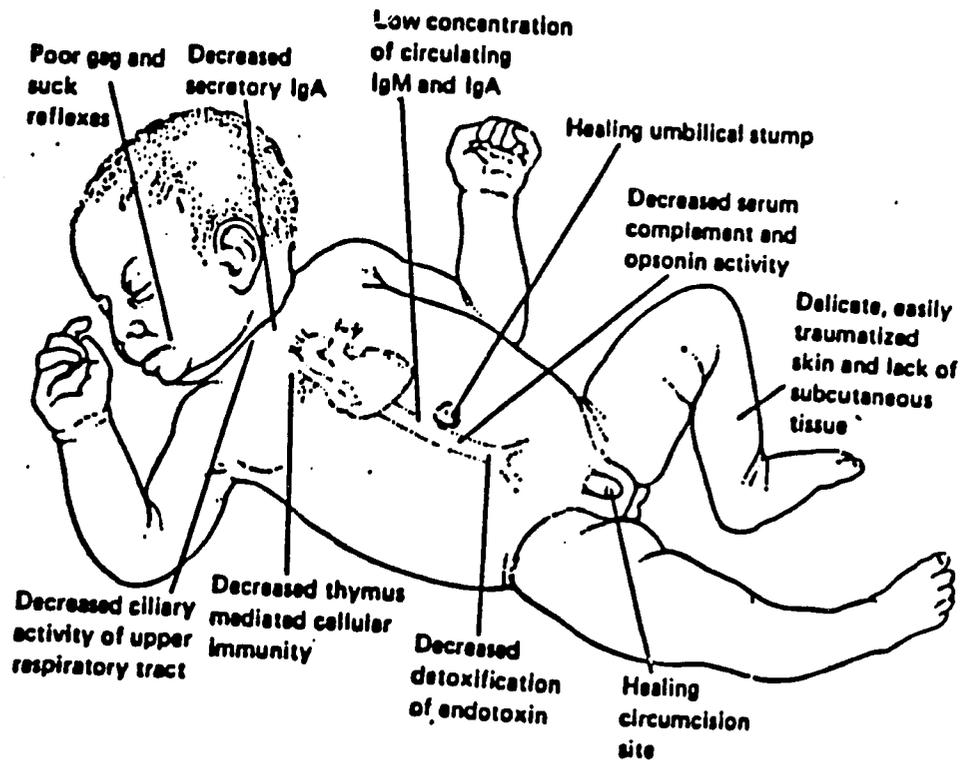


FIG 18-2. Probable routes of fetomaternal infection.

FIG. 18-4. Factors predisposing to neonatal infection.



PRINCIPALES SIGNOS Y SINTOMAS DE SEPSIS
EN AL RECIEN NACIDO

- 1.- Anorexia (no succiona)
- 2.- Hipotermia
- 3.- Decaimiento
- 4.- Cambios de coloracion de la Piel:
 - Azulado
 - Palido
 - Marmorata
- 5.- Irritabilidad
- 6.- Diarrea
- 7.- Vomitos
- 8.- Pausas Respiratorias
- 9.- Distencion abdominal
- 10.- Edema en Extremidades
- 11.- Fiebre
- 12.- Dificultad Respiratoria
- 13.- Mastitis
- 14.- Onfalitis
- 15.- Vesiculas o pustulas
- 16.- Ictericia
- 17.- Rinorrea
- 18.- Conjuntivitis

125

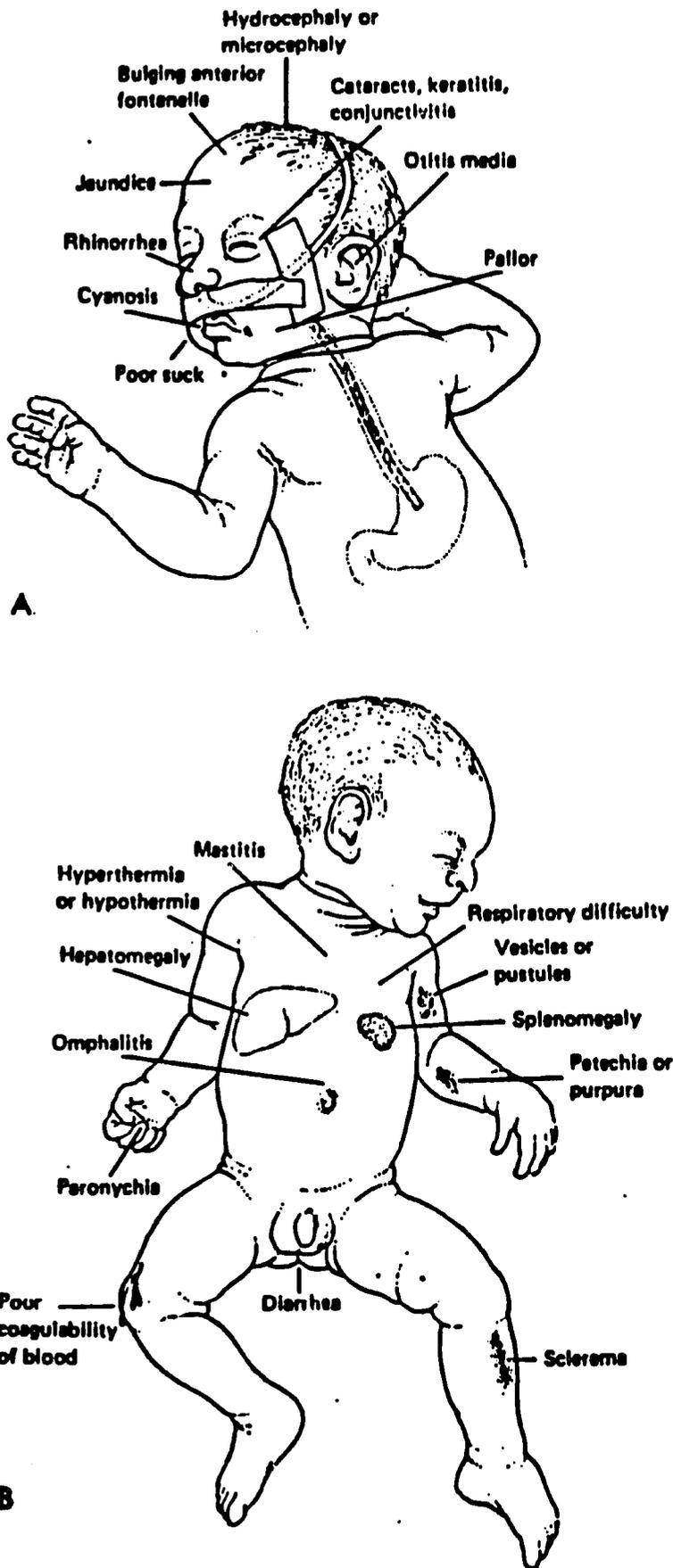


FIG. 18-3. Signs of neonatal infection. A. Cranio-facial signs. B. Bodily signs.

SEPSIS NEONATAL PREVENCION

- LAVADO DE MANOS
- LACTANCIA MATERNA
- EVITAR HIPOTERMIA

MANEJO DEL RN CON SEPSIS

1.- Interrogatorio a la familia:

- Alimentacion del Bebe
- Sintomatologia del RN

2.- PROPONER LA REFERENCIA AL HOSPITAL.

A.- SI ACEPTAN:

- a.1.- Lactancia materna frecuente durante todo el viaje.
- a.2.- Favorecer el mantenimiento de la Temperatura Adecuada.
- a.3.- Iniciar antibioticos por via INTRAMUSCULAR asi:
 - AMPICILINA: 75 mgs x Kg / 1 dosis
 - GENTAMICINA: 2.5 mgs x Kg / 1 dosis
- a.4.- Llenar HOJA DE REFERENCIA.

B.- SI NO ACEPTAN:

- b.1.- Hablar a la familia del ALTO RIESGO DE MUERTE (REAL).
- b.2.- Lactancia Materna Frecuente.
- b.3.- Evitar la HIPOTERMIA.
- b.4.- ANTIBIOTICOS POR VIA INTRAMUSCULAR asi:
 - AMPICILINA: 75mgs x Kg x dosis \ administrado cada 12 horas x 10 dias
 - GENTAMICINA: 2.5mgs x Kg x dosis \ administrado cada 12 horas x 10 dias

LAVADO DE MANOS
SIEMPRE ANTES DE
EXAMINAR A UN RN

142

INDICACIONES ABSOLUTAS

REFERENCIA RN

- SI NO SUCCIONA
- PESO INFERIOR DE 4 LIBRAS
8 ONZAS (2000 GRAMOS)

LACTANCIA
MATERNA

DIRECTRICES PARA LA LACTANCIA MATERNA

A.- Evitar las presiones sobre los pechos.

B.- Alimentacion y Bebida:

- 1.- Eliminar dulces y grasas de la dieta.
- 2.- Frutas, verduras, carnes, pescado, huevos aves, cereales y pan a demanda de la madre (sin restricciones).
- 3.- Beber por lo menos 2 litros de liquidos al dia, de los cuales se recomienda que como minimo 3 vasos sean de leche o sus sustitutos.
- 4.- Raro que alimentos del agrado de la madre causen malestar al lactante, sin embargo las cebollas y el ajo dar mal sabor a la leche materna.
- 5.- Cerveza u otras bebidas alcoholicas con moderacion no se encuentran contraindicadas.

C.- Medicamentos:

Consulta previa con Facultativo, anticonceptivos orales contraindicados durante la Lactancia.

D.- Menstruacion:

- No es un buen Metodo anticonceptivo.
- No afecta la calidad de la leche.

E.- Problemas mas frecuentes durante la Lactancia:

MASTODINIA:

Dolor de la mama por bloque de uno de los conductos Galactoforos, debido a Obstruccion, sosten apretado o vaciado tardio o escaso del pecho.

Aparecimiento de uno o dos bultos en la zona dolorosa, por la probabilidad de infeccion su tratamiento ha de ser inmediato:

- 1.- Amamantar frecuentemente con el pecho afectado (doloroso), para vaciarlo, ofrecerlo siempre antes al lactante.
- 2.- Cambio de posturas para amamantar (cambio zonas de presion).
- 3.- Dejar de usar el sujetador si aprieta demasiado o ensancharlo.
- 4.- Duchas de agua caliente efectuando masaje; asegurarse que no exista leche coagulada que cubra una parte del pezon.
- 5.- Liquidos extra y el reposo.
- 6.- SI EL BULTO NO DESAPARECE AL CABO DE 2 o 3 TOMAS, SI LA ZONA ENROJECE Y DUELE MAS O SI APARECE FIEBRE CON SENSACION GRIPAL, CONSULTAR AL MEDICO, QUIZAS SEA NECESARIO UN ANTIBIOTICO.
- 7.- NO INTERRUMPIR LA LACTANCIA, LA LECHE NO HARA DANO AL BEBE.

DOLOR DEL PEZON:

Molestia habitual en las primeras 2 semanas de lactancia, son MOLESTIAS TEMPORALES, y no justifican la interrupcion de la lactancia, ni el uso de pezoneras.

1.- SIEMPRE:

- a.- Iniciar flujo de leche manualmente, antes de ofrecer al bebe (esto evita la irritacion debida a la succion seca.
- b.- Amamantar frecuentemente con tomas cortas (5 a 10 minutos con cada pecho cada 2 o 3 horas).
- c.- Interrumpir la succion antes de retirar al lactante.
- d.- Rotar areas de presion con distintas posiciones.
- e.- Empezar a amamantar con el pecho menos doloroso; pasar luego al otro, cuando ya haya aparecido el chorro de leche y se haya calmado algo el hambre del lactante.
- f.- Exponer los pezones al sol durante breves periodos.

2.- NUNCA:

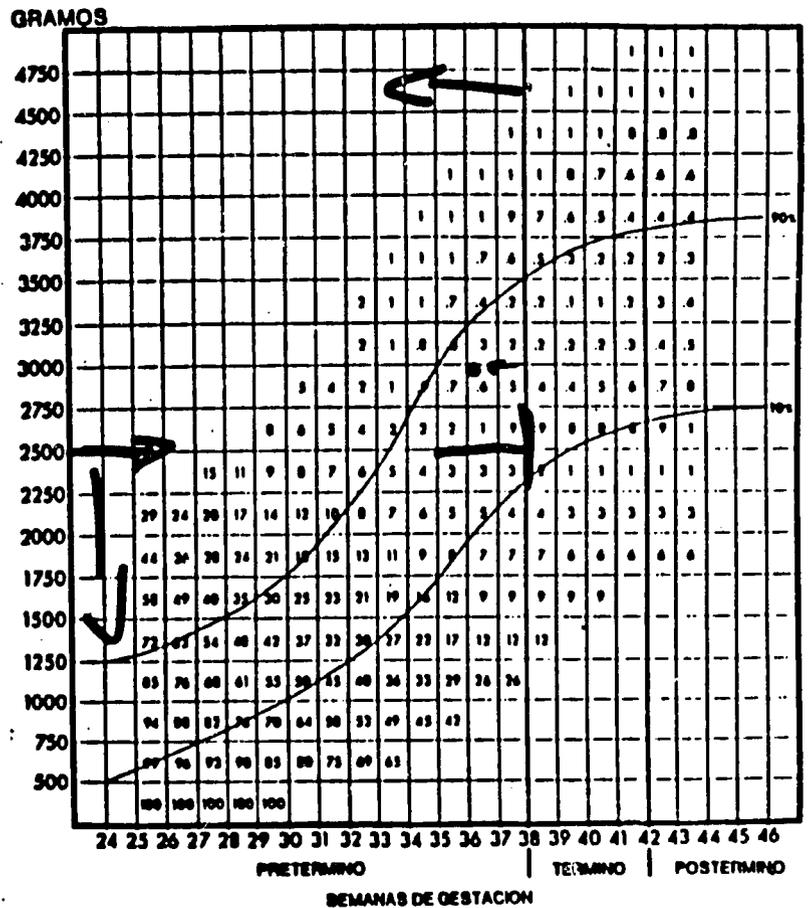
- a.- Saltarse una tomo o evitar amamantar con el pecho doloroso.
- b.- Usar una pezonera.
- c.- Ponerse cantidad excesiva de crema sobre los pezones.
- d.- Usar gasas en el sujetador cubiertas de plastico.
- e.- Usar jabon o agentes desecantes en la higiene del pezon.

3.- CUANDO DISMINUYA EL DOLOR, AUMENTAR LA DURACION DE LAS TOMAS HASTA SATISFACER LAS NECESIDADES DEL BEBE.

INDICIOS DE LACTANCIA SUFICIENTE:

- 1.- Cambio de 6 a 8 pañales en 24 horas (no es buen indicio si el bebe toma ademas gran cantidad de agua).
- 2.- Tomas frecuentes (cada 2 0 3 horas), vigorosas y tranquilas de al menos 5 minutos de cada lado.
- 3.- Bebe despierto y sensible al entorno.
- 4.- NO DEBE PROBERSE SI TODAVIA TIENE HAMBRE DESPUES DE UNA TOMA OFRECIENDOLE UN BIBERON (PACHA), PUES A MENUDO ACEPTARA 25 A 50 cc (CASI 1 A 2 ONZAS) ESTRAS POR EL SIMPLE HECHO DE TENERLOS A SU ALCANCE, PORQUE LE GUSTA SUCIONAR Y NO ESTA ACOSTUMBRADO A UN PEZON QUE DEJE FLUIR LA LECHE CON TANTA RAPIDEZ Y FACILIDAD.

Figura 7-5. Curvas de mortalidad. Los números indican la mortalidad por 100 recién nacidos. Los situados por debajo del percentil 10 son pequeños para la edad gestacional (PEG) y los que se encuentran por encima del percentil 90 son grandes para la edad gestacional (REG). Aquellos que están entre los percentiles 10 y 90 son de peso adecuado para su edad de gestación (AEG). (De Lubchenco LO, Searis DT, Brazier JV: J Pediatr 81: 814, 1972.)

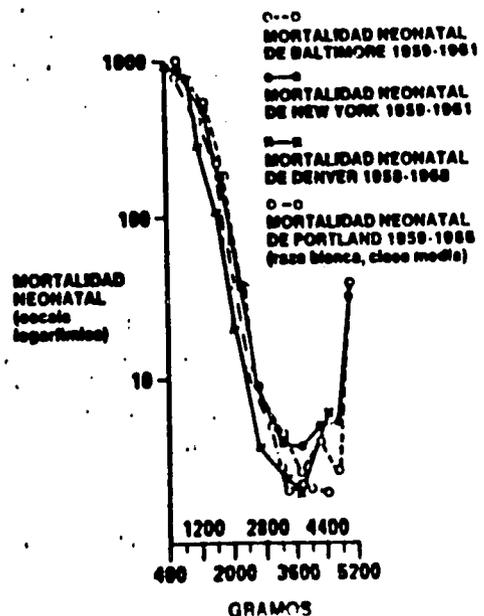


Manquecinos en el cordón sugieren una infección por candidiasis. Los cordones umbilicales cortos se presentan en las cromosomopatías y en el onfalocelo. Los corionangiomas se asocian con prematuridad, abrupcio, polihidramnios, crecimiento intrauterino retrasado y angiomas del cordón. Todas estas alteraciones originan un aumento de la mortalidad. La impregnación meconial sugiere asfixia y la opacidad de la superficie fetal de la placenta indica infección. La arteria umbilical única se asocia con un aumento de la mortalidad y de la incidencia de anomalías congénitas.

Con o sin los problemas anteriormente reseñados muchos de los recién nacidos de alto riesgo nacen prematuramente, son de peso bajo para la edad gestacional, tienen una asfixia perinatal importante, o nacen con anomalías congénitas que ponen en peligro su vida. Hablando en términos generales, para una determinada edad gestacional, la mortalidad neonatal es más elevada cuanto menor es el peso al nacimiento y para un peso determinado, a menor edad gestacional mayor mortalidad (fig. 7-5). El riesgo más elevado de mortalidad neonatal lo presentan los lactantes que pesan al nacer menos de 1.000 g y cuya edad gestacional es inferior a las 30 semanas. La menor mortalidad neonatal se presenta en niños con un peso al nacimiento comprendido entre 3.000 y 4.000 g, y edades gestacionales entre 38 y 42 semanas. Cuando el peso al nacimiento aumenta desde 500 a 3.000 g hay un descenso logarítmico en la mortalidad neonatal; entre la 25 y 37 semanas por cada aumento de dos semanas en la edad gestacional, la mortalidad neonatal disminuye aproxima-

riores a 2.500 g; muchos de estos fallecimientos se presentan en el periodo inmediato al nacimiento y se podrían evitar con mayor facilidad que los de los niños de menor peso o más inmaduros. Además, la mortalidad neonatal aumenta de forma brusca en aquellos niños cuyo peso es superior a 4.000 g (fig. 7-6) y en los que tienen una edad gestacional igual o por encima de las 42 semanas.

Aunque hay una diferencia significativa entre países y



100

APPENDIX L

INSTITUTE OF NUTRITION OF
CENTRAL AMERICA AND PANAMA
INCAP

MINISTRY OF PUBLIC HEALTH
AREA OF HEALTH
QUETZALTENANGO

PROTOCOL FOR MANAGEMENT OF HIGH RISK OBSTETRIC AND
NEONATAL CASES FOR HEALTH CENTERS AND POSTS

FIRST DRAFT
MAY 1991 - NOVEMBER 1991

157 -

PARATICIPANTS IN THE PREPARATION OF THIS DOCUMENT:

1. Pamela Putney, M.A. Consultant INCAP
2. Diana Beck, M.A. Consultant INCAP
3. Raul Najarro, Obstetrician-
Gynecologist Consultant INCAP
4. Roberto Sosa, Neonatologist Consultant INCAP
5. Mario Mejia, Neonatologist Hospital General de
Occidente
6. Heberto de Leon, Obstetrician-
Gynecologist
7. Health Districts of:
Palestina de los Altos
San Juan Ostuncalco
San Martin Sacatepequez
Cabrican
San Carlos Sija
8. Administration (Chief) of Area of Health of Quetzaltenango
9. INCAP
Barbara Schieber M.D.
Junio Robles M.D.
Carlos Gonzales M.D.
Alfred Bartlett Pediatrician-Epidemiologist-Infectious
Disease Expert

CONTENTS

PROTOCOLS FOR MANAGEMENT IN OBSTETRICS

1. Vaginal bleeding in pregnancy
2. Premature rupture of membranes
3. Pre-eclampsia
4. Premature labor
5. Malpresentation
6. Prolonged labor
7. Post-partum hemorrhage
8. Post-partum infection

PROTOCOLS FOR MANAGEMENT IN NEONATOLOGY

1. Prematurity-low birth weight
2. Sepsis

ASSESSMENT AND MANAGEMENT - VAGINAL BLEEDING IN PREGNANCY CAUSED BY PLACENTA PREVIA AND ABRUPTIO PLACENTAE

WHAT IS IS (DEFINITION)

Vaginal bleeding during pregnancy whose cause may be placenta previa or placental abruption

HOW IT PRESENTS: SIGNS AND SYMPTOMS

1. Placenta previa
 - Hemorrhage (may be scant or heavy)
 - No pain
 - Soft uterus

2. Abruptio placenta
 - Hemorrhage (may be scant or heavy)
 - Pain
 - Tense uterus

WHAT TO ASK THE PATIENT

1. When did the bleeding start? Is there a lot or a little bleeding?
2. Is there pain? Where? When did the pain start? Is the pain strong?
3. Have you noticed if the uterus is soft or tense (hard)?
4. Have you had this problem in other pregnancies?

WHAT TO EVALUATE IN THE PATIENT

154

1. Look on the outside of the vagina to see if there is bleeding and how much?
2. Palpate the uterus to determine if it is soft or tense.

REFERRAL CRITERIA

Any amount of vaginal bleeding in pregnancy is abnormal. Refer all pregnant patients with vaginal bleeding.

TREATMENT - MANAGEMENT

Referral process:

1. Explain everything to the family.
2. Refer to the hospital with a referral note.
3. Begin I.V. solutions if it is possible.

IF THE REFERRAL IS NOT ACCEPTED:

1. Explain to the family and the patient that there is serious danger to the mother and her baby if they do not go to the hospital.
2. Recommend absolute bedrest.

IMPORTANT CONSIDERATIONS

When there is vaginal bleeding in pregnancy, the life of the mother and baby may be in danger. Therefore, you must evaluate the following:

1. Monitor fetal heartbeat and fetal movements to see if the baby is alive.
2. Check maternal blood pressure and pulse to determine hypotension secondary to hemorrhage.
3. The delivery must always be in the hospital.
4. Rapidly find transportation for the transfer of the patient while evaluating her.

PROTOCOL FOR MANAGEMENT: PREMATURE RUPTURE OF MEMBRANES

WHAT IT IS (DEFINITION)

It is when the membranes break (leaking of amniotic fluid) before the beginning of labor.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

1. Abnormally heavy discharge of liquid from the vagina.
2. The liquid may be clear, transparent or may be pink, yellow, green or brown.
3. The liquid may leak constantly or only when walking, arising from sitting or lying down, or when pushing.
4. Fever (not always) when there is an infection.

WHAT TO ASK THE PATIENT

1. Has she noted an abnormally heavy vaginal discharge (liquid)?
2. Does the liquid leak constantly? If not, when (when she walks, pushes)?
3. Does she feel like she is urinating without being able to control it or stop it?
4. Is the fluid clear, transparent, or is it red, pink, yellow, green or brown?
5. Does she feel like she has a fever?

WHAT TO EVALUATE IN THE PATIENT

1. Inspect the vagina (without doing an internal exam) to see if liquid is dripping out, how much, what color.
2. Take temperature.

REFERRAL CRITERIA

Refer to hospital when:

- The mother has had ruptured membranes for 12 hours or more and is not in labor
- Any time there is a fever
- The baby is not moving

TREATMENT - MANAGEMENT

Referral process:

1. Explain the dangers of premature rupture of membranes to the family
2. Write a referral note and refer to the hospital.

If the referral is not accepted:

1. Explain the dangers of premature rupture of membranes to the family.
2. Bedrest as much as possible (the patient must be lying down because of the danger of cord prolapse).
3. Periodically visit the patient in her home.

IMPORTANT CONSIDERATIONS

When membranes are ruptured there is greater danger of infection and cord prolapse. Both conditions carry a high risk of death for the baby and serious illness for the mother (uterine infection).

PROTOCOL OF MANAGEMENT: PRE-ECLAMPSIA

WHAT IT IS (DEFINITION)

It is hypertension secondary to the pregnancy, with a diastolic pressure of 90 mm Hg or an elevation of 30 mm Hg* above the patient's normal diastolic pressure; a systolic pressure greater than 140 mm Hg or an elevation of 15 mm Hg* above the patient's normal systolic pressure.

*Estos son al referse.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

1. Elevated blood pressure (may be the only sign).
2. Edema of hands, face, lower extremities.
3. Headache.
4. Dizziness or blurred vision.
5. Nausea, vomiting and or epigastric pain.

WHAT TO ASK THE PATIENT

1. Does she feel swollen? Where? When did it start?
2. Does she have a headache? Since when?
3. Does she have blurred vision or is she dizzy? Since when?
4. Does she have nausea, vomiting or epigastric pain (pain in the mouth of the stomach)?
5. Did she have high blood pressure before the pregnancy or in other pregnancies?
6. Does she suffer from chronic high blood pressure (diagnosed by a doctor)?

152

WHAT TO EVALUATE IN THE PATIENT

1. Take her blood pressure (if the pressure is high, retake it in 1-2 hours to determine if it remains high).
2. Look for edema in the face, hands and legs.

REFERRAL CRITERIA

Refer to the hospital if:

- The mother's blood pressure is $\geq 140/90$ mmHg*
- There has been a rise in systolic blood pressure > 15 mmHg* or diastolic blood pressure > 30 mmHg*

* Sonal reverse

TREATMENT - MANAGEMENT

REFERRAL PROCESS:

1. Explain everything about pre-eclampsia to the family.
2. Refer to the hospital with a note of referral.
3. Follow the patient when she returns from the hospital.

IF THE REFERRAL IS NOT ACCEPTED:

1. Bedrest as much as possible (try to lie on left side)
2. Drink as much liquid as possible, without caffeine (no coffee, coca cola, regular tea). The best liquids are juice, water with lemon and honey, natural teas (especially chamomile) and whole milk.
3. Eat well. Parsley and cucumbers (with the skin) are good to eat. If possible, eat beans, eggs, meat, milk, cheese, yogurt, tortillas.
4. If the mother has advanced symptoms of pre-eclampsia, she should return to the health center or post (or to the hospital) for continued follow-up. These signs and symptoms are: dizziness, blurred vision, nausea and vomiting, stomach

pain, convulsions.

IMPORTANT CONSIDERATIONS

1. If the obstetrical patient (during pregnancy, delivery or post partum) convulses, her life and the life of her baby are in danger and she should be referred immediately to the hospital. Because of this, early referral and treatment are vital.
2. It is important to take the blood pressure of all pregnant women at each visit, as this will help detect pre-eclampsia in its early stages.

160

PROTOCOL FOR MANAGEMENT: PREMATURE LABOR

WHAT IT IS (DEFINITION)

It is regular contractions that produce dilation of the cervix prior to 38 weeks of gestation.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

Regular contractions (every 3-4 minutes) that last at least 45 seconds.

Important note: If it is active labor, the contractions increase in intensity and frequency when the mother is walking.

WHAT TO ASK THE PATIENT

1. When is your due date? Are you sure?
2. Ask all of the questions related to premature rupture of membranes.
3. Contractions:
When did they start?
How often?
Are they strong or not?
4. Is there bleeding? If yes, how much?
5. Ask the mother about her previous pregnancies (has she had other premature deliveries or neonatal deaths)?

WHAT TO EVALUATE IN THE PATIENT

1. Palpate the uterus to determine the frequency, duration and strength of the contractions as well as the position of the fetus (if it is noncephalic or a twin gestation).
2. Measure the fundal height to try to estimate the gestational age.
3. Evaluate fetal heartrate.
4. Inspect the outside of the vagina to see if there is leakage of amniotic fluid or blood.

REFERRAL CRITERIA

If the pregnancy is less than 38 weeks, refer to hospital.

TREATMENT MANAGEMENT

Referral process:

1. Explain everything to the family.
2. Refer to hospital with a referral note

IF THE REFERRAL IS NOT ACCEPTED:

1. If you detect twins or malpresentation in addition to premature labor, try again to convince the family to go to the hospital.
2. Instructions for the mother:
 - Rest and drink a lot of liquids (chamomile tea is good to decrease contractions)
 - Instruct the family regarding the care of a premature baby (see standard for premature babies), also telling them:
 - * Do not bath the baby
 - * Immediately put the baby to the breast (as in all births) if she/he can suck
 - * Maintain the baby's temperature
 - * If the baby is very small, convince the family to bring the baby to the health center or post for antibiotic injections and evaluation

IMPORTANT CONSIDERATIONS

Remember that premature babies have a higher risk of sepsis, hypothermia and hypoglycemia. For these reasons, the educational plan for the family is very important (see management of prematurity).

PROTOCOL FOR MANAGEMENT: MALPRESENTATION

WHAT IT IS (DEFINITION)

It is when the baby is not in cephalic presentation.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

1. Fetal movements in the pelvic region or below the umbilicus.

WHAT TO ASK THE PATIENT

Where do you feel the baby move? (When the baby is breech, the mother usually feels the movements in the pubic area or the area below the umbilicus).

WHAT TO EVALUATE IN THE PATIENT

1. Measure fundal height.
2. Palpate the uterus to determine where the fetal head is.
 - If the fetus is in breech position:
 - * The head will be in the highest part of the uterus (where the buttocks would be if the baby were in cephalic presentation)
 - If the fetus is in transverse position:
 - * The fetus will be in a horizontal position instead of vertical resulting in the abdomen appearing broader and the fundal height less.
 - * The head will be on one side of the uterus.

REFERRAL CRITERIA

Always refer to the hospital for delivery if the presentation is breech or transverse after the 36th week of pregnancy.

163

TREATMENT

Referral process:

1. Explain everything to the patient.
2. Refer to the hospital for delivery.

IF THE REFERRAL IS NOT ACCEPTED:

Explain to the family and the mother that serious danger exists for the mother and her baby if they do not go to the hospital.

IMPORTANT CONSIDERATIONS

The mother:

In the mother, the uterus may rupture as a result of prolonged labor, causing massive hemorrhage and the death of the mother and baby. Because of this it is imperative that the mother have a caesarian section in the hospital as soon as possible.

The baby:

The baby cannot be born in the transverse position. Therefore, if a caesarian is not performed as soon as possible the baby dies of asphyxia. Prolapse of cord or an extremity may also occur.

PROTOCOL FOR MANAGEMENT: PROLONGED LABOR

WHAT IT IS (DEFINITION)

Active labor for more than 12 hour in multiparas and more than 18 hours in primiparas.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

Regular contractions (every 3-4 minutes) that last at least 45 seconds for more than 12 hours in multiparas and more than 18 hours in primiparas.

Important note:

If it is active labor, the contractions increase in intensity when the mother is walking and she cannot sleep through the contractions.

WHAT TO ASK THE PATIENT

1. When did the contractions begin (hour)? How frequent are they? How long do they last (each one)?
2. When did the membranes (water) break? (This data can help confirm the diagnosis of active labor). In many cases the membranes do not break until the birth of the baby.

WHAT TO EVALUATE IN THE PATIENT

1. The frequency, duration and quality of the contractions.
2. Inspect the vagina to determine the presence of liquid and/or blood.
3. Determine the fetal position (see Protocol for Malpresentation)

REFERRAL CRITERIA

Refer to the hospital if the mother has active labor more than 12 hours (multipara) or more than 18 hours (primipara).

TREATMENT MANAGEMENT

Referral process:

1. Explain the dangers of prolonged labor to the family.
2. Write a referral note and refer immediately to the hospital.

IF THE REFERRAL IS NOT ACCEPTED

1. Inform the family of the real risk of death of the mother and baby.
2. Hydrate patient (give water with sugar, honey, orange juice, etc.)
3. Recommend that mother walk and rest alternately.

IMPORTANT CONSIDERATIONS

When there is prolonged labor, the baby's life may be in danger; therefore, you must evaluate:

1. Fetal heart rate.
2. The presence of meconium (green or brown amniotic liquid). If it is present, meconium indicates that the baby already has fetal distress and may die soon.

PROTOCOL FOR MANAGEMENT: POST-PARTUM HEMORRHAGE

WHAT IS IS (DEFINITION)

It is abnormally heavy hemorrhage after the birth of the baby. It may be seen immediately or up to the 6 weeks post-partum. The most frequent causes are: retained placenta, retention of portions of placenta, uterine atony (failure of uterus to contract) and vaginal or cervical lacerations.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

1. Hemorrhage
2. Hypotension
3. Tachycardia } Late signs
4. Somnolence, dizziness, diaphoresis
5. Weakness

WHAT TO ASK THE PATIENT

1. What time (hour) was the delivery?
2. How much blood has been lost?
3. When did the bleeding start?
4. Is there nausea, somnolence, dizziness?
5. Did the placenta deliver?

WHAT TO EVALUATE IN THE PATIENT

1. Vaginal bleeding
2. If the placenta has delivered
3. If the placenta delivered is complete
4. Blood pressure
5. Pulse

6. State of consciousness
7. Palpate the uterus

REFERRAL CRITERIA

1. Retained placenta > 30 minutes without hemorrhage
2. Retained placenta with hemorrhage (refer immediately; do not wait 30 minutes)
3. Retention of portions of placenta
4. Abnormally heavy bleeding for any cause: uterine atone, cervical or vaginal laceration.
5. Uterine atone (failure of uterine contraction).
6. Hemorrhage of bright red blood (although it may be in small quantities), that persists or passage of large clots.

TREATMENT

Referral process:

1. First, find transportation immediately
2. Explain everything to the family
3. Vigorously massage the uterus
4. Give intramuscular injection of syntocin or ergotrate to the mother.
5. Try to encourage the delivery of the placenta by pushing up on the uterine fundus while placing gentle traction on the cord following the angle of the birth canal
6. If the placenta has delivered, massage the uterus to keep it firm and express or remove blood clots.
7. Give the mother plenty of liquids to drink in the health post or center and during the trip to the hospital.
8. Refer to the hospital with complete documents.
9. Begin I.V. solutions if possible.

. IF THE REFERRAL IS NOT ACCEPTED

1. Explain to the family and the mother that serious danger exists for the mother and baby if they do not go to the hospital.
2. Vigorously massage the uterus
3. Give intramuscular injection of syntocin or ergotrate to the mother.
4. Try to encourage the delivery of the placenta by pushing up on the uterine fundus while placing gentle traction on the cord following the angle of the birth canal
5. If the placenta has delivered, massage the uterus to keep it firm and express or remove blood clots.
6. Give the mother plenty of liquids to drink in the health post or center and explain the importance of continuing to drink liquids. This increases the circulating volume of blood and may prevent hypotension.

IMPORTANT CONSIDERATIONS

Post-partum hemorrhage may place the mother's life in danger. Therefore, you must evaluate:

Maternal blood pressure and pulse

Remember that this is the primary cause of maternal mortality and that rapid, aggressive action is necessary to save the life of the mother.

The majority of maternal deaths from hemorrhage occur in the first 12 hours post-partum.

PROTOCOL FOR MANAGEMENT: POST-PARTUM UTERINE INFECTION

WHAT IT IS (DEFINITION)

It is a uterine infection after delivery caused by the entry of microbes into the vagina and uterus during delivery and post-partum.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

1. Fever
2. Lower abdominal pain (very important sign; the pain is different from afterbirth pains)

WHAT TO ASK THE PATIENT

1. When was your baby born?
2. Do you have a fever? When did it start?
3. Do you have lower abdominal pain?
4. Do you have foul-smelling vaginal discharge, with pus?

WHAT TO EVALUATE IN THE PATIENT

1. Evaluate the lower abdomen and pelvis to determine if there is pain on palpation.
2. Take the temperature.
3. Inspect the vagina to see if there is vaginal discharge with foul odor or pus.

4. Increase oral intake of fluids
5. Visit the patient everyday in her home if possible
6. Good vulvar hygiene. Change underclothes frequently.

IMPORTANT CONSIDERATIONS

This infection can produce an infection called septic shock. The symptoms are: fever or hypothermia, tachycardia, air hunger, confusion and/or anxiety, hypotension. This situation is very serious and requires immediate transfer of the patient following initial dose of antibiotics (see scheme mentioned in Post-Partum Infection)

PROTOCOL FOR MANAGEMENT: PREMATURITY AND LOW BIRTH WEIGHT

WHAT IT IS (DEFINITION)

Prematurity

Is it a baby born before 9 months of pregnancy.

Low birth weight

It is a baby who weighs less than 2500 grams (5 pounds 8 ounces).
It may be premature or term.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

Prematurity

- . Baby is born before 38 weeks (before 9 months)

Low birth weight

1. Weight of neonate less than 2500 grams (5 lb. 8 oz)
2. Neonate looks small

WHAT TO ASK THE MOTHER

How many months of pregnancy had you completed when your baby was born?

WHAT TO EVALUATE

Premature babies

1. Gestational age by last menstrual period
2. Inspect the size and characteristics of the neonate (thin or transparent skin, few skin folds or lines on the soles of the

feel, small mammary gland; many veins visible on abdominal wall)

Low birth weight babies

1. Weight of newborn, size

REFERRAL CRITERIA

1. If the baby does not nurse
2. If the weight is less than 4 pounds 8 ounces (2000 grams)
- * Obviously if there are other signs of problems (for example, sepsis) the baby should be referred.

TREATMENT

Referral process

1. Nurse baby during trip to hospital
2. Maintain the baby's temperature (clothe the baby well including a cap and socks, maintaining as much contact as possible with the mother)
3. Arrange that the mother's milk arrives at the hospital, if possible. NO ES LOGICO
4. Refer to the hospital with complete documents.

IF REFERRAL IS NOT ACCEPTED

1. Give maternal breastmilk
 - Give nothing except breastmilk (no water, tea, oil, food, nor liquid of any other type)
 - Nurse baby or give breastmilk via a dropper at least every 2 hours.
 - If the baby cannot nurse, manually express milk from the breasts and give it to the baby with a dropper

- If the baby does not nurse enough, he or she may become hypoglycemic (the baby trembles and has a weak cry). Therefore, you must insist that the baby receives maternal milk constantly.
- 2.. Maintain the baby's temperature (clothe the baby well including a cap and socks. Skin to skin contact with the mother as much as possible. Mother and baby should sleep together using hot water bottles covered with cloth and placed by the baby's side). This avoids hypothermia (when the baby's temperature is less than 37 degrees C).
- 3.. Instruct the family regarding signs of infections and respiratory problems, including who to go at whatever hour should these symptoms develop.
- 4. Explain to the family that if the baby does not nurse that it is urgent that they go to the hospital.

IMPORTANT CONSIDERATIONS

Three major complications in premature babies and those with low birth weight:

1. Sepsis (see Management of sepsis)
2. Respiratory difficulties (for premature babies)
3. No hay 3

Education of the family is very important.

If they do not receive adequate treatment, the majority of these babies will die.

PROTOCOL FOR MANAGEMENT: SEPSIS IN THE NEWBORN

WHAT IT IS (DEFINITION)

It is a serious infection of the newborn's entire body that may begin as an upper respiratory tract infection, omphalitis, dermatitis, etc., or without any visible or apparent source of infection.

HOW IT PRESENTS: SIGNS AND SYMPTOMS

1. Does not nurse or nurseless (very important sign)
2. Hypothermia (baby feels cold) or hyperthermia (baby has fever, feels hot)
3. Listlessness
4. Changes in the color of the skin (blue, pale)
5. Irritability (baby cries a lot, appears agitated)
6. Stops breathing for periods of time, respiratory difficulty, grunting, panting (like a dog), rapid respiration.

WHAT TO ASK THE MOTHER/RELATIVE OF THE NEWBORN

1. About feedings
Is the baby nursing well? If not, when did she/he stop nursing well? Has it been one day, a few hours, a few days? Does the baby's mouth feel hot or cold when she/he is nursing? Does the mother think that the baby is nursing well?
2. Has the baby been crying a lot? Does the cry sound different? Is the cry weak?
3. Has the baby been limp, said? For how long?
4. Have you noticed that the baby has had irregular and/or rapid respirations, or has been grunting with respirations?

WHAT TO EVALUATE IN THE NEWBORN

1. Temperature
2. Sucking
3. Cry
4. Activity
5. Respirations

REFERRAL CRITERIA

If the baby has any of the signs or symptoms, refer him/her. Do not assume that a fever in a newborn is not important, or that a baby who does not nurse or appears sad or listless will get better. These babies can die in one day if they do not receive adequate treatment. You must refer them.

TREATMENT

If referral is accepted:

1. Explain everything to the family (the urgency of the situation and how quickly the baby can die)
2. Nurse as much as possible during the trip to the hospital
3. Keep the baby clothed and covered during the trip to the hospital (clothe the baby well, including a cap and socks, and with as much contact with the mother's body as possible)
4. Give an initial dose of antibiotics in the health centre or post of:
75 mg/kg IM Ampicillin plus 2.5 mg/kg IM Gentamycin (give in external border of the thigh, not in the gluteals)
5. Refer to the hospital with a referral note

IF REFERRAL IS NOT ACCEPTED

1. Explain everything to the family (the urgency of the situation and how quickly the baby can die)

2. Nurse as much as possible
3. Keep the baby well clothed (maintain as much body heat as possible)
4. Initiate antibiotic injections (in the external border of the thigh, not in the gluteals) in the health center or post of: 75 mg/kg IM each dose Ampicillin plus 2.5 mg/kg IM Gentamycin every 12 hours for 10 days

IMPORTANT CONSIDERATIONS

Four of the most important high risk factors that can contribute to neonatal sepsis are:

1. Maternal fever infection
2. Foul smelling amniotic fluid
3. Prolonged rupture of membranes: > 24 hours prior to the birth of the baby
4. Prematurity/low birth weight
5. Prolonged labor

However, many babies develop sepsis without any of these risk factors.

Remember that sepsis is the major cause of death in neonates and that they can die in 24-48 hours without adequate treatment. Do not wait, and do not treat a newborn with a fever as if she/he had only an upper respiratory tract infection.