Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

_________________________________ ________________

Anissa Dickerson Date

Promoting Low-Intervention Childbirth in Paraguay: Assessing the Role of Midwives

By

Anissa Dickerson
Master of Public Health

Hubert Department of Global Health

____
Dr. Karen L. Andes, PhD
Committee Chair

____
Dr. Jennifer W. Foster, PhD, CNM, MPH
Committee Member

Promoting Low-Intervention Childbirth in Paraguay: Assessing the Role of Midwives

By

Anissa Dickerson

BA, BSN
University of Oklahoma
2002, 2007

Thesis Committee Chair: Dr. Karen L. Andes, PhD

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in the Hubert Department of Global Health
2012

Abstract

Promoting Low-Intervention Childbirth in Paraguay: Assessing the Role of Midwives

By Anissa Dickerson

Background: The midwifery model of care is based on the principal that pregnancy and birth are naturally occurring events in a woman's life. Birth has become increasingly medicalized with the routine use of oxytocin, episiotomies, and forceps-assisted deliveries. Midwives provide low-cost, low-intervention care for women throughout the world. Midwives, known as *obstetras* in Paraguay, deliver 32% of babies in hospitals in Paraguay; yet limited research exists about the role of midwives in the health care team.

Objective: The purpose of this study is to assess the role of midwives in the Paraguayan health system, their perspectives on birth and their potential for promoting low-intervention care.

Methods: Qualitative methods were used to gather data May-August 2011. Focus group discussions were conducted with midwives and midwifery students. In-depth interviews were also used to gather data from midwives and physicians who work with midwives in public hospitals. Key informant interviews and participant observation also carried out.

Results: Participants feel that low-intervention care is better for women but they do not think that this is a realistic option in the current health care system. Some of the major obstacles to low-intervention birth include lack of prenatal care preparation, scheduling of non-medically indicated cesarean sections in the prenatal period, limited human and infrastructural resources, and fear or uncertainty around natural birth. Additionally, midwifery students have a more holistic view of care than providers and see a need to offer women choices around pregnancy, labor, and birth.

Discussion: The role of the midwife is becoming increasingly limited, either due to physician-dominated institutions or the lack of sufficient resources to be able to provide women with more comprehensive midwifery care. Independent of the midwife's role, it is apparent from the evidence presented that women delivering in public hospitals are being left out of the decision making process of their own labor and delivery. Findings suggest that there is a need for provider training around evidence-based practice and low-intervention birth. Other intervention strategies to consider include a pilot program for a midwifery model of care and the development of prenatal care educational materials for all pregnant women.

Acknowledgements

I would like to thank my advisors, Dr. Karen Andes and Dr. Jennifer Foster, for their support throughout this thesis process. Without their valued advice and encouragement this research would not have been possible.

I am also thankful to the Global Field Experience Fund, Sigma Theta Tau International, Alpha Epsilon Chapter, and the Global Elimination of Maternal Mortality from Abortion (GEMMA) Fund for their financial support and making it possible for me to travel to and live in Paraguay to carry out my research.

I am grateful to everyone who helped me with the data collection process in Paraguay, the Instituto Andrés Barbero of the Universidad Nacional de Asunción, Instituto Nacional de Salud. I would like to thank all those who assisted me in gathering data for the profile of midwives: Lucia Bogada, Enriqueta Levy, Fransisca Medina, Patricia Orihuela, and Silvia Ramos. A special thanks to Nelli Goiriz, Margarita Ferrira, and Maria Isabel Rodriguez for their assistance and support for my project while I was in Paraguay, as well as Grisel Guato, who transcribed the interviews and focus groups. I am especially grateful to the Benítez family for their generosity and hospitality during my time in Paraguay. Thank you to Lorena Binfa and Maria Pili Peña for their help with this work and support for humanized birth in Latin America. I would like to acknowledge the assistance of Jim Campbell and thank the UNFPA for allowing me to use their questionnaires for my project. Also, I would like to thank Tamar Goldenberg for her previous work in the field and assistance with my research.

I would like to thank my family and friends for their love and support over the last three challenging years of graduate school. I would especially like to thank Robert Wild for his continued encouragement and love throughout this process. I appreciate the sacrifices he has made to support my work and am grateful for his unwavering belief in my ability to fulfill my dreams.

Finally, I would like to thank all the participants that were involved in my research. This project would not have been possible without their willingness to share their perspectives and stories. A special thanks to the midwives of Paraguay, who shared their lives, challenges, and experiences with me.

Table of Contents

Chapter 1: Introduction 1
- Introduction and rationale 1
- Problem statement 2
- Purpose statement and research questions 2
- Significance statement 3
- Definition of terms 3

Chapter 2: Literature Review 5
- The definition of a midwife 5
- Midwifery in South America 6
- Midwifery and reproductive health in Paraguay 8
- Paraguay 10
- Medicalization of birth 12
  - Cesarean sections 12
  - Episiotomies 13
  - Other interventions 14
- Low-intervention birth and the role of midwives 16
- Humanized birth 17

Chapter 3: Methods 20
- Research design 20
- Recruitment and eligibility 21
- Data collection 23
- Small group discussion and interview guide development 23
- Small group discussions and in-depth interviews with midwives 24
- Small group discussions with midwives 24
- In-depth interviews (IDI) with midwives 25
- Small group discussions with midwifery students 25
- Interviews with physicians 26
- Key informant interviews 26
- Participant observation 26
- Ethical considerations 27
- Data management and analysis 27
- Limitations 28
- Data collection for midwifery profile 29

Chapter 4: Results 30
- Profile of midwives 30
- Findings from qualitative data 34
- Participant observation 35
- Perspectives of birth 38
  - Natural birth 39
  - Fear and uncertainty of natural and low-intervention birth 40
  - Humanized birth 43
  - A different view from students 45
- Barriers and facilitators to low-intervention birth 47

Lack of prenatal education and preparation....47
Preparation for possible complications....48
Prenatal care provided by physicians versus midwives....49
Unwarranted cesarean sections....50
Lack of resources....53
The influence of family on birth....54
Lack of support by physicians for low-intervention birth....56
Facilitators of low-intervention birth....57
Role of the midwife....58
Views on midwifery roles at physician-dominated hospitals....59
Views on midwifery role at team-based hospitals....63
Differences in the role of the midwife in Asunción versus outside of Asunción....64
Residents....66
Space/place of the midwife....58
Professional conflict with nursing....69
Chapter 5: Discussion....71
Conclusions....71
Recommendations....75
Training providers in evidence based practice for low-intervention care....75
Midwifery model of care....76
Development of prenatal education materials for all pregnant women....78
Policy recommendations....79
Limitations and need for further research....80
References....82

List of Appendices

Appendix A – Focus Group Discussion Guide – Midwives 86
Appendix B – Focus Group Discussion Guide – Midwifery Students 88
Appendix C – In-depth Interview Guide – Midwives 90
Appendix D – In-Depth Interview Guide – Physicians 92
Appendix E – Codes and Code Definitions 93

List of Tables

Table 1 – History of Assistant at Delivery in Chile 8
Table 2 – Country Indicators 30
Table 3 – MDG and Reproductive Health Indicators...31
Table 4 – Midwifery Workforce and Education in Paraguay 32
Table 5 – Regulation of Midwifery in Paraguay..33
Table 6 – Midwifery Professional Associations in Paraguay 33
Table 7 – Maternal and Newborn Policies...34
Table 8 – Paraguayan Public Hospitals visited by PI, June-July 2011 35

List of Figures

Figure 1 – Maternal Mortality Trends in Paraguay, 1987-2009 30
Figure 2 – Trends in Total Fertility Rate and Contraceptive Prevalence, 1990-2008.......31
Figure 3 – Delivery Location, 1998-2008 31
Figure 4 – Birth Attendants by Provider and Risk 32
Figure 5 – % of Cesarean Section Deliveries by Area and Socioeconomic Status...........34

Acronym Dictionary

AOP	Asociación de Obstetras del Paraguay
AROM	Artificial Rupture of Membranes
CIA	Central Intelligence Agency
DFID	Department for International Development
ENDSSR	Encuesta Nacional de Demografía y Salud Sexual y Reproductiva
FGD	Focus Group Discussion
FIGO	International Federation of Gynecology and Obstetrics
GHWA	Global Health Workforce Alliance
IAB	Instituto Doctor Andrés Barbero
ICM	International Confederation of Midwives
ICN	International Council of Nurses
IDI	In-Depth Interview
IICS	Instituto de Investigaciones en Ciencias de Salud
INS	Instituto Nacional de Salud
IPA	International Pediatric Association
IRB	Institutional Review Board
IV	Intravenous
Jhpiego	No longer an acronym, pronounced, "ja-pie-go." An international non-profit organization affiliated with Johns Hopkins University
KOICA	Korea International Cooperation Agency
MDG	Millennium Development Goal
MMR	Maternal Mortality Ratio
MOH	Ministry of Health
NGO	Non-governmental organization
NORAD	Norwegian Agency for Development Cooperation
OB-GYN	Obstetrician-Gynecologist
PARHUPAR	Parto Humanizado Paraguay
PI	Principal Investigator
PMNCH	Partnership for Maternal, Newborn and Child Health
SES	Socio-economic Status
SGD	Small Group Discussion
SIDA	Swedish International Development Cooperation Agency
US	United States
USAID	United States Agency for International Development
UNA	Universidad Nacional de Asunción
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
VBAC	Vaginal Birth After Cesarean
WB	World Bank
WHO	World Health Organization

Chapter 1: Introduction

Introduction and rationale

Midwives provide low-cost, low-intervention care for reproductive age women throughout the world. They work "in partnership with women to give the necessary support, care and advice during pregnancy, labor and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and the infant."[1] The midwifery model of care is based on the principle that pregnancy and birth are naturally occurring events and therefore do not need to be medicalized. Differences between midwife-led and other models of care include variations in philosophy and focus, relationship between the care providers and the pregnant woman, differences in the main focus of prenatal care, use of interventions during labor, care setting, and goals and objectives of care.[2] Variations in midwifery services and the education and role of midwives exists in regions around the world. For instance, midwifery services in the Americas are as diverse as the countries themselves.

Midwifery services are underdeveloped in all regions of the Americas except for the non-Latin Caribbean, and labor and delivery care is physician dominated and medicalized with high rates of caesarean sections.[3] In Asunción, Paraguay the caesarean section rate is 46%,[4] over three times the medically indicted rate,[5] and the rate of episiotomies for first deliveries is nearing 92%.[6] The World Health Organization recommends that when first-level care is provided in the hospital it should "maintain the demedicalized and close-to-client characteristics of midwifery-led birth homes."[7] Midwifery led models of care have a reduction in regional analgesia,[8,9] a decrease in the use of oxytocin,[8] fewer episiotomies[8-10] and fewer instrument assisted births,[8] as well as

an increased chance of feeling in control during labor, a spontaneous vaginal delivery, and initiating breastfeeding.[8]

Currently, limited information exists on the role of midwives in Paraguay, or their potential to promote low-intervention care. In Paraguay, professional midwives, also known as *obstetras*, are trained at the university level and are either direct-entry midwives or nurse-midwives. Professional midwives deliver 23.1% of the babies born in hospitals in Asunción and 32% in all of Paraguay.[4] In the city of Asunción, the many midwives exclusively perform vaginal deliveries in the hospital and do not provide prenatal care or childbirth education[*]. Hatem et al. notes that "policy makers who wish to achieve clinically important improvements in maternity care, particularly around normalizing and humanizing birth, should consider midwife-led models of care and consider how financing of midwife-led services can be reviewed to support this."[8]

Problem statement

Birth has become increasingly medicalized with the routine use of oxytocin, episiotomies, and forceps assisted deliveries. We know that 46% of women in Asunción give birth by cesarean section[4] and almost 92% of first deliveries involve episiotomies.[6] Limited information is available regarding the role of midwives in the promotion of natural or low-intervention birth, their autonomy in the health care team, or their role in decision-making regarding interventions during labor and delivery.

Purpose statement and research questions

The purpose of this study is to assess the role of midwives in the Paraguayan health system, their perspectives on birth, and their role in promoting low-intervention care. Specific research questions include:

[*] Personal communication with various midwives, June-July 2011

1. What is the role of the midwife in the continuum of care around pregnancy and birth in Paraguay?
2. How do midwives in Paraguay perceive natural birth and medical interventions?
3. What is the potential for midwives in Paraguay to play a role in and promote low-intervention care?

Significance statement

Limited information exists regarding the role of midwives in the health delivery system of Paraguay. Barriers and facilitators to providing low-intervention care to women in Paraguay will be explored and have the potential to inform policy makers and providers in the country's capital. A report, *The State of the World's Midwifery*, was released in June of 2011, which focused on assessing women's access to quality midwifery services around the world. The report profiled 58 countries where needs are greatest; Paraguay was not one of the countries represented in the report. This study will contribute to knowledge about midwifery in Paraguay and serve as a foundation for a more comprehensive study of the country's midwifery services.

Definition of terms

episiotomy: a surgical incision of the perineum used to increase the diameter of the vaginal outlet to facilitate the birth[11]

amniotomy: also known as artificial rupture of the membranes (AROM), is a method of induction or augmentation of labor[12]

oxytocin: also known as Pitocin, is a drug used to stimulate uterine contractions for induction or augmentation of labor. The drug is also used to control postpartum bleeding[13]

induction of labor:	a procedure used to stimulate uterine contractions during pregnancy before labor begins on its own[14]
augmentation of labor:	the stimulation of labor contractions that have already begun[15]
nullipara:	a woman who has not completed a pregnancy beyond the point of viability[16]

Chapter 2: Literature Review

The definition of a midwife

The word midwife means "with woman." The literal meaning—to be with woman during childbirth—is the essence of midwifery.[17] Midwives around the globe have been providing women with care during pregnancy and birth for centuries. Modern day professional midwives provide low-cost, low-intervention care for reproductive age women throughout the world. They work "in partnership with women to give the necessary support, care and advice during pregnancy, labor and the postpartum period, to conduct births…and to provide care for the newborn and the infant."[1] According to the International Confederation of Midwives (ICM) the definition of a midwife is:

> "A person who has successfully completed a midwifery education program that is duly recognized in the country where it is located and that is based on the ICM *Essential Competencies for Basic Midwifery Practice* and the framework of the ICM *Global Standards for Midwifery Education*; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery."[1]

The Confederation also highlights the responsibility of health counseling and education for women, their families, and the community. This should include prenatal education and preparation for parenthood and may encompass women's health, sexual and reproductive health, and childcare.[1] Midwives practice in a variety of settings, which may include the home, communities, hospitals, clinics, or health units.

Traditional midwives, also known as traditional birth attendants, are often local women with limited formal education, whereas professional midwives have formal training, usually in university settings. There are direct-entry and nurse-midwifery programs. Direct-entry midwives enter directly into midwifery education without first

being trained in nursing. They become midwives through an experiential or formal education process that is not predicated on the assumption that all its students are nurses.[17] Nurse-midwives complete their nursing program before being trained in midwifery; these programs may be combined or sequential. Direct-entry and nurse-midwives are both able to practice in Paraguay, however, the current educational system trains direct-entry midwives in a 4-5 year university program.*

Midwifery in South America

A profile of midwifery services in the Americas concluded that professional midwifery is underdeveloped in all regions of the Americas except for the non-Latin Caribbean, and birth is physician-dominated and medicalized with high rates of cesarean sections.[3] Also, high skilled attendance at birth does not automatically reduce maternal and perinatal mortality, and often substandard institutional care can be an important risk factor in these countries.[3] Finally, the report concluded that medicalization of maternal care seems to create inequality in access to care among groups of a population.[3]

In South America, there are different forms of training and types of professional midwifery. One of the most common is a system with direct-entry programs, which has been developed into five-year degree programs in many countries. Midwives who graduate from these programs are able to practice midwifery autonomously and are involved in different levels of the health care system. Countries in South America with this type of system include Argentina, Chile, Ecuador, French Guyana, Paraguay, Peru, and Uruguay.[18] Brazil is an example of a different type of system, where nurses train in post-graduate programs of midwifery.[18] With the exception of Bolivia, which recently started a midwifery program, the remaining countries of South America have no history

* Personal communication with Goiriz, N., June 2011

of qualified professional midwifery training (Colombia, French Guyana, Malvinas Islands, South Georgia Islands, Suriname, and Venezuela).[18]

In Bolivia three new midwifery programs at rural universities were started in 2009 with the initiative of the Bolivian Society of Nurses and support from the United Nations Population Fund (UNFPA).[19] Previously, nurses could attend post-graduate courses in obstetrics, gynecology, and perinatal care and assist with low-risk deliveries.[3] In rural areas traditional midwives still attend most births and less than 50% of women deliver in institutions.[18] The lack of skilled birth attendance contributes to one of the highest maternal mortality ratios (MMR) in South America at 180 deaths per 100,000 (2008) live births.[20]

In contrast, nearly 100% of women deliver in institutions in Chile, where there is a long history of midwifery.[*] Midwifery training began in 1834 and a professional organization for midwives was formed in 1919.[21] In the last century, professional midwives replaced traditional and auxiliary midwives as birth attendants (Table 1). At the same time the MMR decreased to 16.6 deaths per 100,000 live births, the lowest in South America.[20] Chile has a direct-entry system in which midwives must complete a five-year university program. 70% of births are attended by midwives and they cover 92% of the prenatal care provided in the country.[3] Unfortunately, the rate of cesarean sections is on the rise in the country, with a national rate of 30.7%[22] and reports of private sector caesarean deliveries over 70%.[†]

---

[*] Personal communication with Binfa, L., Chilean midwife, April 2011
[†] Personal communication with Binfa, L., Chilean midwife, April 2011

Table 1 – History of Assistant at Delivery in Chile

Year	Traditional Midwife (%)	Auxiliary Nurses (%)	Professional Midwife (%)	Physician (%)	MMR*
1925	75	0	20	5	
1955	12	43	36	9	279†
1995	0	0	70	30	26

Source: Ministry of Health, Chile, 1997 as cited by Pettersson, 2005

Argentina, Brazil, and Uruguay are similar in that a high percentage of births are institutional and most are attended by physicians, 75%, 80%, and 90%, respectively.[3] Nevertheless, their professional midwifery is not as strong as Chile's. Argentina and Uruguay have more physicians than nurses or midwives[3] and Brazil has one of the highest cesarean section rates in the world at 45.9% in 2006.[23]

Midwifery and reproductive health in Paraguay

In Paraguay, professional midwives are referred to as *Licenciada en Obstetricia* or *Obstetras* and traditional midwives are known as *Obstetras Empiricas*. Professional midwives have 4-5 years of undergraduate training and enter the profession as direct-entry midwives. Previously nurse-midwifery programs were required. Currently there is the option of doing a nursing program of 4 years followed by a post-graduate midwifery program.‡ There are also technical and auxiliary midwives who have less training than professional midwives and assist professional midwives in labor and delivery units. Technical and auxiliary midwives are more often used in the interior of the country (outside the capital). Professional midwives work in the public and private sectors, however, in the private sector their function is similar to an obstetric nurse and they normally do not attend deliveries.§

---

* Instituto National de Estadisticas, Santiago, Chile as cited by Segovia, 1998
† Data from 1965
‡ Personal communication with midwives from the Universidad Nacional de Asunción, June-August 2011
§ Personal communication with various physicians and midwives, June-August 2011

Deliveries in Paraguay have moved from the home to the hospital. 84.6% of births are attended by skilled providers in the hospital, while only 11.5% of births take place at home.[4] This is an increase from 2004 when only 74% of births took place in hospitals.[24] The Sexual and Reproductive Health Survey of 2008 reported that professional midwives deliver 32% of the babies born in hospitals in all of Paraguay.[4] Data from the Ministry of Health shows that midwives attend over half (51%) of reported births in public hospitals, and as many as 69% of the low-risk births that occur in the public hospitals across the country.[25] In 2008, 2.6% of homebirths were attended by professional midwives while 8.7% were attended by traditional midwives or family members.[4] Homebirths have been steadily decreasing from 39% in 1998 to 11.5% in 2008 with the highest rates of homebirth occurring in the north of Paraguay, which is sparsely populated.[4]

According to the Sexual and Reproductive Health Survey from 2008, the national cesarean section rate was 33%, up from 26.9% in 2004.[4] The same survey reported that the cesarean section rates increased from 40% to 46% in Asunción in the same time period. A study looking at cesarean sections without medical indications and maternal outcomes analyzed 286,565 deliveries in 24 countries across Latin America, Africa, and Asia.[26] The overall cesarean section rate was 25.7%, with Paraguay having the second highest rate at 41.9% just behind China at 46.2%. The study analyzed 3460 births in 17 facilities across the country. Paraguay also had the second highest antepartum cesarean section rate without medical indications. The researchers found a trend towards an increased risk with cesarean sections without medical indications in all regions. Compared to spontaneous vaginal delivery, all other modes of delivery showed an

association with an increased risk of death, admission to the Intensive Care Unit, blood transfusion, and hysterectomy.[26]

The MMR in Paraguay is 125 deaths per 100,000 live births.[27] To meet Millennium Development Goal 5 of reduction of maternal mortality by 75% by 2015 Paraguay needs to reduce the MMR to less than 38 deaths per 100,000 live births in the coming years. Paraguay provides health care coverage to all its citizens free of charge since December of 2009, when a change in legislation took place.[28] This coverage provides contraception to reproductive age women. The current contraceptive prevalence rate is 79.4%, which has helped reduce the fertility rate from 4.6 births per woman in 1990 to 2.5 births per woman in 2008.[4] Health care coverage also helps provide women with prenatal care. 90.5% of pregnant women have at least 4 prenatal visits,[4] the WHO recommendation,[29] and 78.8% of women seek prenatal care in the first trimester.[4]

Paraguay

The Republic of Paraguay is one of the two land-locked countries of South America and is about the size of California. It is considered part of the Southern Cone region along with Chile, Argentina, and Uruguay. It is bordered by Brazil to the east, Bolivia to the north and Argentina to the south. Paraguay is a country of nearly 6.5 million people.[30] Almost 2 million people live in and around the capital city of Asunción, in what is considered Department Central.[27,30] 58.1% of the population lives in urban areas with the remaining 41.9% residing in rural regions.[31] 36.3% of the entire population lives in Asunción and Departamento Central, which makes up less than 1% of the country's land.[31] Spanish and Guaraní, an indigenous language, are both official languages of the country. It is estimated that 90% of the population speak and understand

Guaraní,[32] 40% of the population speaks Jopará, a mix between Spanish and Guaraní.[4] 59% of the population speaks Guaraní more frequently in the home and in rural areas nearly 54% of the population uses Guaraní as their predominant language.[4] Paraguay is made up of 17 departments and one capital district. Each of these departments has a corresponding health district.

Sixty five percent of the health professionals are concentrated in the capital and Departamento Central, however, 65% of the population resides in the rest of the country.[33] The number of physicians, nurses, and midwives varies between sources, yet, all sources consistently report that physicians outnumber nurses and midwives.[33-35] There are large variations across the country. In Asunción it is as high as 19.5 physicians per 10,000 people and as low as 1.2 per 10,000 people in the Department of Caazapá, in the interior.[31] The same pattern is true for nurses with an estimated 2.8 nurses per 10,000 people nationally; 7.2 per 10,000 people in Asunción and 1.0 per 10,000 people in Caazapá.[31] The national estimates for 2008 were 12 physicians per 10,000 and approximately 8 nurses per 10,000 people.[33] There is no available data on midwives, but it can be assumed that similar patterns exist. From this information, it is apparent that there is inequity in the distribution of health professionals across the country, which has a potential to impact pregnancy and childbirth. In Paraguay, inequities exist in the economic, social, and political systems, all of which can have an influence on public health. According to the CIA World Factbook, the GINI Index of Paraguay is 53.2, where 0 represents perfect equality and 100 implies perfect inequality.[30] Paraguay was the fifteenth most inequitable country of the Factbook's 140-country ranking.

Medicalization of birth

One view of medicalization refers to “subordinating certain practices, experiences, and behaviors to the authority of medicine.”[36] Birth has become increasingly medicalized in western society, with the overuse of episiotomies, shaving, enemas, oxytocin induction and augmentation, and instrument-assisted deliveries. Diniz & Chacham argue that an intervention or medicalized model of care uses technology to “start, augment, accelerate, regulate and monitor the process of birth.”[37] Women generally accept interventions and the medicalization of birth despite the unpleasant experience.[36,37] Research has found that some women believe the interventions are medically necessary and needed to protect themselves and their babies.[37] In a qualitative study exploring the reasons for the medicalization of birth in Paraguay, specifically, rising cesarean section rates in Greater Asunción, all doctors described common use of medical interventions during labor and birth, including the use of oxytocin, amniotomies, episiotomies, and in one hospital the routine use of forceps for VBAC (vaginal birth after cesarean) deliveries.[28]

Cesarean sections

The most invasive intervention in the medicalization of birth is the cesarean section. In a study of 120 randomly selected hospitals in 8 Latin American countries Paraguay was found to have the highest risk-adjusted cesarean section rates at 46%.[38] Cesarean section rates are even higher in private hospitals of Greater Asunción. A secondary data analysis of the 2008 Sexual and Reproductive Health Survey revealed that 74.4% of births in private hospitals are delivered by cesarean section, compared to 39.2% in Ministry of Health hospitals, 35.8% in social security hospitals, and 53.4% in other

types of hospitals (military and police hospitals, maternal and infant hospitals, and teaching hospitals, including the Centro Materno Infantil, the Red Cross, and the Hospital Nacional).[28]

A 2010 report by the WHO concluded that in 2008 there were approximately 6.2 million unnecessary cesarean sections (based on the WHO 15% recommendation for medically justified cesarean sections) performed globally, with the cost of the global 'excess' cesarean sections estimated to amount to approximately $2.32 billion.[23] In Paraguay there were an estimated 26,466 unnecessary cesarean sections performed with an excess cost of $5.7 million.[23] The report also concluded that 'excess' cesareans have important negative implications for health equity both within and across countries.[23]

Episiotomies

An episiotomy is a surgical cut into the perineum with scissors that is made during the delivery to increase the diameter of the vaginal outlet and facilitate the birth of the baby. In some countries routine episiotomy for nulliparous women is still practiced, however, restrictive episiotomy policies are more beneficial.[39] Women have less severe perineal trauma, less suturing and fewer complications at seven days postpartum.[39]

In a study of episiotomy rates of nulliparous women in 105 hospitals in 14 Latin American countries 10 of the 14 countries reported episiotomy rates over 90%, including Paraguay at 91.5%.[6] Rates were similar for public, private, and social security hospitals (90.2%, 96.4%, and 95.6%, respectively) as well as for the type of provider attending the delivery (doctors in 91.4%, midwives or nurses in 93.6%, students in 93.7%). Women often accept routine episiotomies in Brazil, under the impression that the procedure is necessary to protect themselves and the baby.[37] A study in Uruguay done by Tomasso,

and colleagues, reported that 76% of women believed episiotomies were necessary.[37] In Asunción, Paraguay episiotomies are perceived by doctors as beneficial and a way to prevent vaginal tears during birth.[28] A study by Ho et al. identified barriers to implementation of a restrictive episiotomy protocol, which included fear of tearing, lack of time, outdated protocols, and training of junior staff.[40]

In the United States through the 1970s it was common practice to cut an episiotomy for nearly all women having their first delivery.[41] Its popularity has been attributed to a straight surgical incision, which is easier to repair than a ragged laceration that may result from delivery.[41] Others believed that it would prevent pelvic floor complications, however, a number of studies[42-45] have shown that routine episiotomy is associated with an increased incidence of anal sphincter and rectal tears.[41] Alperin et al., found that an episiotomy performed for the first delivery conferred a five-fold risk for second-degree or worse laceration with the second delivery.[41] In the United States, rates of episiotomies with all vaginal deliveries decreased from 60.9% in 1979 to 24.5% in 2004.[46] The age adjusted rate for operative vaginal delivery also declined from 8.7% in 1979 to 4.6% in 2004.[46] The decline in operative vaginal delivery corresponds with the sharp increase in cesarean sections, which may suggest that practitioners favor cesarean deliveries to operative vaginal deliveries for difficult births.[46] It took decades for US providers to implement evidence-based practice regarding episiotomies and it may take even longer for these changes to take place in Latin America.

Other interventions

Oxytocin, also known as Pitocin, is a drug used for induction and augmentation of labor. This drug is also used in active management of the third stage of labor to reduce

the risk of postpartum hemorrhage. Oxytocin is one of the most common drugs used in the United States.[41] Even though the use of oxytocin during labor can be very painful for women there are some providers that believe the pain is accepted by women because it shortens labor.[37] Lack of infrastructure and space in hospitals, as well as a shortage of beds, have all been identified by physicians as reasons to intervene and speed up birth.[28,37] An amniotomy, or artificial rupture of the membranes, can also be used to induce or augment labor. In Paraguay, physicians described amniotomy as a method to identify risk, specifically the presence of meconium and the possibility for infection, as well as a way to augment labor.[28] The same physicians perceived the use of oxytocin to augment labor as necessary for contractions to be effective in order to "provoke dilation and end with a vaginal birth."[28]

Perineal shaving is used as a routine procedure prior to birth in some countries. Some believe it will lessen the risk of infection if there is a perineal tear or episiotomy. However, there is no evidence of clinical benefit from this procedure and the potential for side-effects, such as irritation, redness, and superficial scratches, suggests that shaving should not be part of routine clinical practice.[47]

In medicalized systems, women generally labor in bed laying on their backs, although this position may be more convenient for staff, there is no evidence that this position provides women or babies any benefit.[48] A Cochrane Review determined that the first stage of labor was approximately one hour shorter for women who remained upright, as opposed to recumbent positions during the first stage of labor.[48] A different Cochrane Review focusing on the second stage of labor, determined that use of any upright or lateral position, compared to supine or lithotomy positions, was associated

with: reduced duration of the second stage of labor; a small reduction in assisted deliveries using either forceps or vacuum; reduction in episiotomies; reduction in reporting of severe pain during second stage of labor; fewer abnormal fetal heart rate patterns, however, there was an increase in second degree perineal tears, and increased estimated blood loss greater than 500 milliliter.[49] Both reviews concluded that women should labor and give birth in the position they find most comfortable.

Low-intervention birth and the role of midwives

The midwifery model of care is based on the principle that pregnancy and birth are naturally occurring events and therefore do not need to be medicalized. Differences between midwife-led and other models of care include variations in philosophy and focus, relationship between the care providers and the pregnant woman, differences in the main focus of prenatal care, use of interventions during labor, care setting, and goals and objectives of care.[2] Conceptually, the medical and midwifery-led models of care are meant to be complementary rather than competitive, and there is a history of midwives and physicians working together in hospitals and practices in the US and Europe, which proves that they are compatible.[2] The midwifery-led model of care has many advantages for women. It avoids unnecessary obstetrical interventions during labor in order to help the process remain normal, and addresses various needs that are not adequately met by the medical management model of care.[2] For this and other reasons, the midwifery model is recommended for pregnant women and their babies.[8] Hatem et al. notes that "policy makers who wish to achieve clinically important improvements in maternity care, particularly around normalizing and humanizing birth, should consider midwife-led

models of care and consider how financing of midwife-led services can be reviewed to support this."[8]

The World Health Organization recommends that when first-level care is provided in the hospital it should "maintain the demedicalized and close-to-client characteristics of midwifery-led birth homes."[7] The midwife-led model of care includes: continuity of care, monitoring the physical, psychological, spiritual and social well-being of the women and their families throughout the childbearing cycle, as well as providing women with individualized education, counseling and prenatal care, continuous attendance during labor, birth and the immediate postpartum period; support during the postpartum periods; minimizing the use of technological interventions; and identifying women who require obstetric or other specialist care.[8] This model is proven to have a reduction in regional analgesia,[8] a decrease in the use of oxytocin,[8] fewer episiotomies[8-10] and fewer instrument assisted births, as well as an increased chance of feeling in control during labor, a spontaneous vaginal delivery, and initiating breastfeeding.[8] Continuous midwifery labor support has been shown to decrease cesarean section rates, promote vaginal delivery, and improve maternal and neonatal outcomes.[50]

Humanized birth

Humanizing birth means "considering women's values, beliefs, and feelings and respecting their dignity and autonomy during the birthing process."[51] A recent study from Brazil found that care for humanization of birth is not commonly practiced and that staff are not prepared to provide humanized care for mothers and newborns.[52] Goldenberg concluded that the experience of vaginal birth in Asunción is highly medicalized, where doctors control the birth process.[28] She recommends a shift to a

humanized birth model with a reduction in medical interventions unless medically indicated.

In Chile, even though midwives provide care to approximately 80% of the childbearing population, birth has become increasingly medicalized, with the cesarean section rate as high a 59%[53] and reports of private sector caesarean deliveries over 70%.[*] To combat the situation the Chilean Minister of Public Health adopted the *Model of Integrated and Humanized Health Services*, concurrently with the *Clinical Guide for the Humanized Attention of Labor and Delivery* in 2007.[54] The objective of the guide was to guarantee professional assistance during labor and delivery, with a safe, personalized and human delivery for all pregnant women in Chile. Care includes continuous emotional support, reduction of intrapartum continuous fetal monitoring, use of alternative modes of pain relief, promotion of free position change and walking, restriction of episiotomy, elimination of the use of enema and genital shaving, and promotion of mother and newborn early skin-to-skin contact. Binfa studied the perception of providers (obstetricians and midwives) and patients of humanized attention during labor and delivery as well as the obstetric outcomes of women who received care within this model.[54] Nevertheless, preliminary results show that after implementation of this model 98% of births used oxytocin, 88% used continuous monitoring, 83% used the lithotomy position, and 60% received an episiotomy. Binfa concluded that medicalization of birth still occurs and that no changes have been observed since the implementation of a model and clinical guide of humanized care.[54] Findings from this study imply that the adoption of policy does not translate into a change in practice. Additional interventions need to take place such as, provider training or a campaign to raise awareness of the new policy.

---

[*] Personal communication with Binfa, L., Chilean midwife, April 2011

Currently, limited information exists on the role of midwives in Paraguay, or their perspectives of low-intervention birth. It is apparent that Asunción, Paraguay has a highly medicalized model of care but thus far only studies of physicians and mothers have taken place. To obtain a more complete view of the situation it is necessary to study at professional midwives, their role in the health care system, and their views of low-intervention birth.

Chapter 3: Methods

This research project was conducted in association with the Instituto Nacional de Salud (INS) and the Instituto Doctor Andrés Barbero (IAB) of the Universidad Nacional de Asunción (UNA). The purpose of the study was to create a profile of Paraguay's midwives focusing on their role in the health system and their perspectives of low-intervention birth. Qualitative methods included focus group discussions, in-depth interviews, key informant interviews, and participant observation. A second portion of the project involved gathering pre-existing population level information regarding Paraguayan midwives. In June of 2011, a report titled *The State of the World's Midwifery: Delivering Health, Saving Lives* was released by the United Nations Population Fund (UNFPA) and did not include a country profile on Paraguay. Permission was obtained to use the same questionnaires to gather data and to compile a similar report on Paraguayan midwives. The following section details methods used for data collection and the qualitative data analysis procedures implemented in the study.

Research design

The aim of the study was to assess the role of professional midwives in promoting and providing low-intervention delivery services and care in Paraguay. Three key questions were formulated to address this aim: 1) What is the role of the midwife in the continuum of care around pregnancy and birth? 2) What are the perceptions of midwives around natural birth and medical interventions? 3) What is the potential for midwives to play a more central role in low-intervention care? A qualitative approach was selected for use in order to promote meaningful discussions and gain insight into midwives' perceptions and experiences in the health system. The student principal investigator (PI)

collected data between May 24, 2011 and August 12, 2011 in Paraguay. Data was collected from and about hospitals, midwives, midwifery students, and physicians in 5 different departments of Paraguay: Capital, Central, Cordillera, Guaira, and Misiones. Prior to arrival in country the study was designed to gather data in and around Asunción, however, due to extended contacts and support, the PI was able to expand data collection into 3 additional departments.

Originally, the study was designed to include 4 focus group discussions (FGD) with 6-8 midwives in each group. Unfortunately, recruitment and scheduling proved to be logistically difficult and therefore, 2 small group discussions (SGD) with 3 participants and one with 5 participants were conducted. Additional data was collected through 10 in-depth interviews with midwives. Recruiting and scheduling was also difficult for midwifery students. The PI was able to recruit a sufficient number of participants for 2 small group discussions, one with 3 students and the other with 6. Nine interviews were conducted with physicians trained in obstetrics and gynecology, who work with midwives in the labor and delivery units of public hospitals; one of these physicians was a second-year OB-GYN resident. Five key informant interviews were also conducted.

Recruitment and eligibility

The PI worked with INS and UNA to gain access to public hospitals in and around Asunción and nearby departments. Access was granted to Santísima Trinidad Maternal Child Hospital, the Maternal Child Hospital of Limpio, the Regional Hospital of Caacupé, the Maternal Child Center in San Lorenzo, the Regional Hospital of Villarrica, and the Regional Hospital of San Juan Bautista. The PI gained permission to recruit and

interview midwives and physicians and to observe labor and birth. All hospitals used for recruitment and observation were public hospitals. Labor and deliveries were observed in 4 hospitals.

Professors of midwifery at UNA worked with the PI to recruit midwives for focus group discussions and interviews. Purposive sampling was used for midwifery students, midwives, and physicians. Midwifery students were eligible to participate if they were in their fourth and final year of the program. All students were attending UNA. One method of student recruitment involved attending a midwifery class with a sign-up sheet for those interested in participating. Additional students were recruited through midwifery professors at UNA.

Contacts at UNA also assisted with recruitment for the midwife small group discussions. Eligibility for participation in small group discussions or interviews was restricted to professional midwives or nurse-midwives currently working in the labor and delivery unit of a public hospital. In Paraguay, midwives may also work in private hospitals but often in the role of a nurse and hence private hospitals were not a part of the recruitment or observation process. One exception to the eligibility criteria occurred in one focus group discussion that included 2 midwives who work in the obstetric emergency room and operating room in one of the Maternal Child hospitals. The exception was allowed and incorporated into the analysis because of the content of the discussion generated.

Physicians were eligible to participate if they worked in the labor and delivery unit of a public hospital and worked with midwives who were working in a midwifery capacity. An attempt was made to recruit physicians who work as the chief of the unit.

Of the 9 physician interviews, 6 were conducted with the chief physicians for their shift, and one of the 6 was the chief OB-GYN at the hospital.

Data collection

All data collection took place in Spanish. Guaraní is one of the two official languages in Paraguay, yet all interviews and small group discussions were conducted in Spanish with occasional use of Guaraní words or phrases. All participants were university educated and felt comfortable speaking in Spanish therefore no Guaraní interpreters were needed. All interviews and small group discussions were recorded with permission from the participants. Prior to small group discussions and interviews midwives and midwifery students were asked to complete a short questionnaire in order to collect basic demographic information. A moderator from the Instituto de Investigaciones en Ciencias de la Salud (IICS) was recruited to conduct the first small group discussion with midwives and both small group discussions with midwifery students. Unfortunately, she was unavailable for later data collection, so the PI conducted the remaining small group discussions and interviews. The PI was present at all small group discussions. The study PI speaks Spanish as a second language, is female, and is a native United States citizen. She is a nurse and is currently completing graduate study in Public Health, Midwifery, and Family Nurse Practitioner programs.

Small group discussion and interview guide development

The discussion guides for small group discussions with midwives and midwifery students were developed by the PI and reviewed by 2 professors in the UNA midwifery department. Two meetings were held to review study design and the content and quality of the discussion guides. Feedback from the professors was taken into consideration and

guides were adjusted to incorporate this feedback. Changes were made in grammar and wording to enhance clarity and to align questioning and flow in a more culturally relevant manner. All small group discussion and interview guides can be found in Appendices A-D.

A pilot small group discussion was conducted with fourth year midwifery students. The pilot group was conducted by the IICS moderator to test the guide and the acceptability of the communication and interactions between the moderator and the PI. Guides were adjusted prior to each small group discussion to incorporate emerging themes from previous discussion groups. A semi-structured interview guide was developed based on the discussion guide for midwife and physician interviews. Again, guides were adjusted as needed as the data collection process progressed.

Small group discussions and in-depth interviews with midwives

In total 22 midwives participated, 11 in in-depth interviews and 11 in small group discussions. Midwives ranged in age from 25 to 60 with a median age of 35.5. Midwifery experience ranged from 4 months to 33 years with a median of 7 years, and a combined 274 years of experience. Three male midwives participated and the remaining 18 were female. Twelve of the participants were direct-entry midwives and 10 were nurse-midwives. Fifteen of the 22 participants had some postgraduate coursework. Sixteen had more than one job; 2 had three jobs. The midwife participants were working at a combined total of 15 different hospitals.

Small group discussions with midwives

Three small group discussions were conducted with midwives. Two groups consisted of 3 midwives and the third group had 5 participants. Two small groups

consisted of midwives who worked at the same hospitals. The third group was a mix of midwives from multiple locations. Questions and prompts were used to promote discussion around the midwives' views of natural and low-intervention birth, their self-perceived roles in the health care system, and decision-making processes around medical interventions during labor and delivery.

In-depth interviews (IDI) with midwives

Ten IDIs were conducted with midwives. One of the interviews was intended to take place with only one midwife but another midwife joined the interview and therefore a total of 11 midwives participated in interviews. A semi-structured guide was used for interviews. Questions were asked to elicit information regarding self-perceptions of their roles in the health system, their views of natural birth, and decision-making processes around medical interventions during labor and delivery.

Small group discussions with midwifery students

Two small group discussions were conducted with midwifery students. Students ranged in age from 20 to 26 and experience ranged from 5 to 35 deliveries, with a median of 27 attended births. The first small group discussion was used as a pilot and the guide for the second discussion changed minimally. The PI decided to include the pilot small group discussion in the data analysis because of the utility and applicability of the findings. The semi-structured guide was used to promote discussion regarding expectations of their future careers, perceptions of the midwife in the health delivery team, views of natural birth and medical interventions, and training in low-intervention care.

Interviews with physicians

Nine interviews were conducted with physicians, one of which was a second-year OB-GYN resident. The PI conducted all interviews in Spanish and used a semi-structured interview guide to elicit information regarding the value of midwives in the health care system, their perception of midwives' roles in the system, how midwives promote natural or low-intervention birth, and midwives' potential to promote and provide low-intervention care.

Key informant interviews

Two key informant interviews were conducted with officials from the Ministry of Health, one with the head of a humanized birth NGO, PARHUPAR (Parto Humanizado Paraguay), the president of the national midwifery association, Asociación de Obstetras del Paraguay (AOP), and finally an interview with a prominent OB-GYN and maternal child health advisor in Paraguay. Verbal informed consent was obtained and interviews were recorded with the permission of the participants. Participants in key informant interviews were aware that interviews were not anonymous but could refuse to respond to questions if they chose to do so. Individual questions were prepared for each interview with the overall themes of the role of midwives in the Paraguayan health system and the midwife's role in the promotion of low-intervention care.

Participant observation

The PI observed 10 vaginal births and one cesarean section at 4 different hospitals. Five of the deliveries were attended by midwives, 2 by midwifery students, one by an OB-GYN resident, and two by OB-GYNs. The PI was able to observe the admissions process for labor and delivery, midwifery rounds for postpartum women and

women admitted for observation and the management of laboring women by midwives and physicians. Detailed field notes were taken during and after hospital observations.

Ethical considerations

Emory University's Institutional Review Board (IRB) approval was sought prior to data collection, and the study was designated as non-research due to the fact that findings would not be generalizable to a broader population. Participants for interviews and small group discussions were informed that participation was voluntary and that data would be kept confidential and securely stored and protected. Verbal informed consent was obtained from all participants prior to data collection. Permission was also given to record interviews and small group discussions.

Data management and analysis

All small group discussions and interviews were recorded with the permission of participants and transcribed in Spanish. Guaraní words were transcribed in Guaraní with a definition/translation entered in square brackets [ ] within the text. Transcripts were analyzed in Spanish. All transcriptions were completed by a research assistant with prior experience with transcription. The PI randomly checked the transcripts for accuracy; all final transcripts were checked for quality and edited when necessary. MaxQDA software was used to analyze the data. Inductive and deductive codes were developed and applied to segmented portions of text. Early in the analysis process, the PI and one other person trained in qualitative analysis both applied the codes to a small group discussion transcript, compared coding differences and discussed needed changes to code definitions. The finalized codebook with definitions can be found in Appendix E. Four additional codes were added for physician interviews and midwifery student small group

discussions. On completion of coding, all data were retrieved and reviewed systematically to develop summaries of patterns within each code as well as where key codes intersected with other codes across groups of participants.

Limitations

The PI conducted the majority of the focus group discussions and interviews. She is fluent in Spanish but has limited experience with the nuances of Paraguayan Spanish. Guaraní was rarely used in discussions or interviews and the transcriptionist translated those words in the text, so its use was not a major limitation of the study. The inability to recruit a sufficient number of midwives for focus group discussions, and instead holding smaller group discussions, underscores the difficulty in conducting research in an international, non-native environment. Responses from midwives and physicians may have been affected by the context in which data was collected, particularly since participants were aware of the PI's background in nursing and midwifery. For example, physicians may have felt the need to respond in a noncritical manner regarding their work with midwives knowing that the interviewer herself was in the process of formal midwifery training. Additionally, interviews in hospitals were often held in semi-public spaces such as the hallway, an empty delivery room, or a shared call room, and would occasionally be interrupted by other providers or the need for the interviewee to return to a patient. These situations were avoided whenever possible, however, some providers, especially physicians, were unable to devote long periods of uninterrupted time for interviews.

Data collection for midwifery profile

The PI used questionnaires from the UNFPA to gather data on the state of midwifery in Paraguay. UNFPA and nine key partners of the Global Midwifery Symposium (UNICEF, ICM, WHO, FIGO, GHWA, WB, Jhpiego, PMNCH, IPA) and donors (SIDA, DFID, the Netherlands, NORAD, and USAID) released the first *State of the World's Midwifery* report at the International Confederation of Midwives Triennial Congress in Durban, South Africa in June 2011. The report provides the first comprehensive analysis of midwifery issues and services in countries where the needs are the greatest and profiles 58 countries from around the world. Paraguay was not one of the countries profiled in the report. The questionnaires consist of six modules: 1) Statistics and organization of the health system 2) Education 3) Regulation 4) Professional association 5) Policies and 6) External support. The PI worked with the Department of Biostatistics of the Paraguayan Ministry of Health, the Paraguayan branch of the Pan American Health Organization, the Department of Midwifery in UNA, and INS to complete the questionnaires.

Chapter 4: Results

Profile of midwives

The following tables and figures were compiled from pre-existing data gathered by the PI through questionnaires from the UNFPA and other various sources. The tables and figures are based on country profiles published in the *State of the World's Midwifery* report.

Table 2 – Country Indicators

Indicator	
Total population[30]	6,541,590
Urban (%)	61
Total fertility rate[4]	2.5
Births per year[27]	102,000
Number of maternal deaths[27]	128
Neonatal mortality rate (per 1,000 live births)[27]	11
Infant mortality rate (per 1,000 live births)[27]	15
Literacy rate (%, age 15 and over, males; females)[30]	95; 93

Figure 1 – Maternal Mortality Trends in Paraguay, 1987-2009[27]

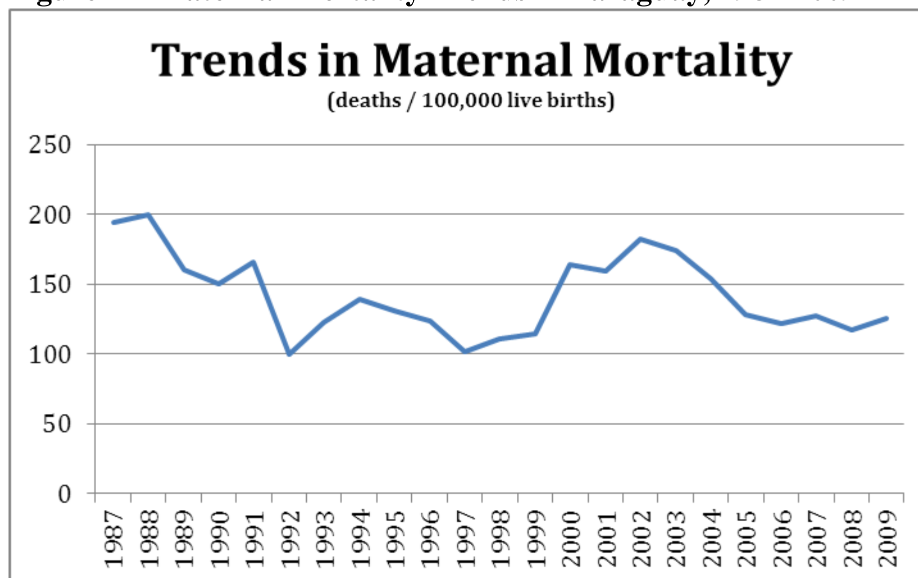


Table 3 – MDG and Reproductive Health Indicators

Indicator	
Maternal mortality ratio (per 100,000 live births)[27]	125
Proportion of births attended by skilled health personnel (%)[4]	87.2
Contraceptive prevalence (%)[4]	79.5
Modern methods	70.7
Traditional methods	8.7
Women receiving 4 or more prenatal care visits (%)[4]	90.5
Women delivering in institutions (%)[4]	84.6

Figure 2 – Trends in Total Fertility Rate and Contraceptive Prevalence, 1990-2008[4]

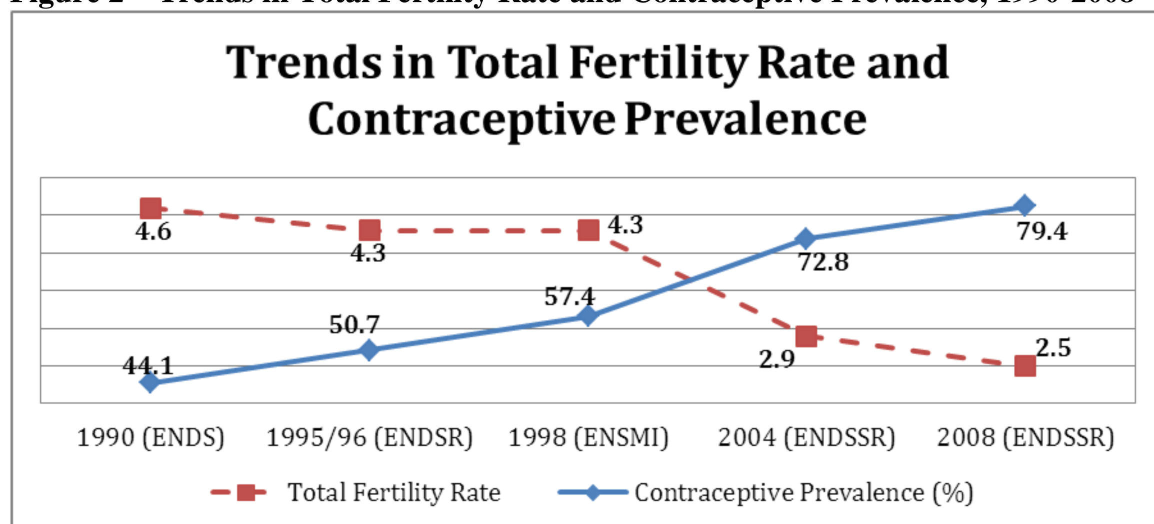


Figure 3 – Delivery Location, 1998-2008[4]

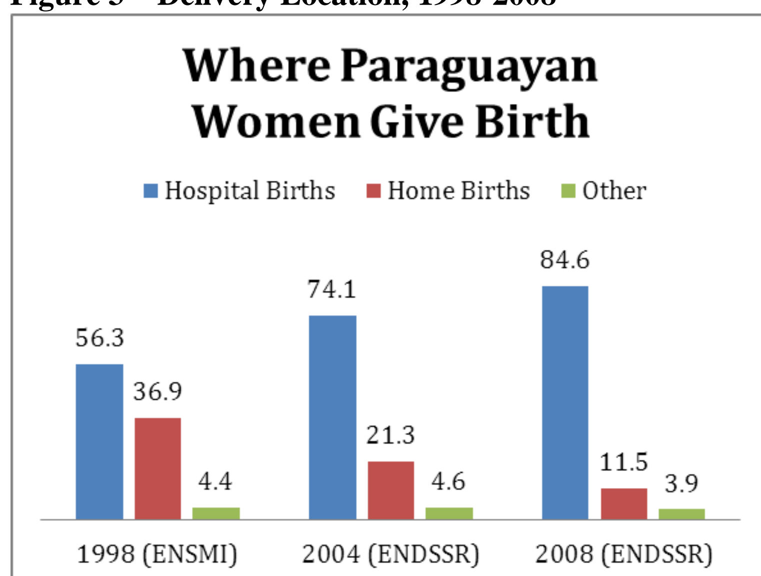


Table 4 – Midwifery Workforce and Education in Paraguay

Workforce and Education	
Number of midwives (including nurse-midwives)[55]	1460
Midwifery education programs (direct-entry; combined; sequential)	Yes; No; Yes
Number of public midwifery education institutions	1 (Universidad Nacional de Asunción)
Number of private midwifery education institutions	Unknown (>10)
Duration of midwifery education programs	5 years (public) 4 years (private)
Prerequisites for entry into programs	High school education Entry exam (public only)
*Following information pertains to Universidad Nacional de Asunción	
In hospital clinical hours	1,760
Last curriculum revision	2010
Does the curriculum include all of the WHO-ICM competencies	Yes

Source: Data collected through UNFPA questionnaires from UNA and MOH

Figure 4 – Birth Attendants by Provider and Risk[25]

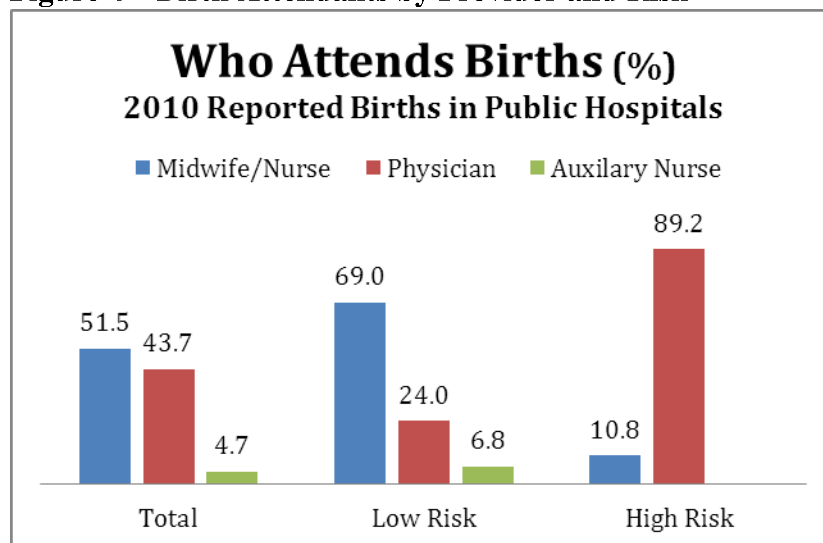


Table 5 – Regulation of Midwifery in Paraguay

Regulation	
Midwives hold a protected title	Yes Lic. en Obstetricia
A government body to regulate midwifery practice	Yes
A license is required to practice midwifery	Yes
An electronic register for licensing exists	No
The license permits midwives to practice in public, private, and non-state sectors	Yes
Continuing education is required to maintain license	No
Certification exam is required to obtain license	No
Officially recognized definition of a professional midwife	Yes, ICM definition
Legislation in the country recognizes midwifery as an autonomous regulated profession	In the process of securing this in the Ministry of Health
Midwives are authorized to practice all the essential WHO-ICM competencies	Yes
Midwives are authorized to prescribe life-saving medications	No Allowed to prescribe some but not all medications. Cannot prescribe certain drugs such as prostaglandins, cesarean delivery kits or curettage kits

Source: Data collected through UNFPA questionnaires from UNA and MOH

Table 6 – Midwifery Professional Associations in Paraguay

Professional Associations	
A midwifery association exists	Yes Asociación de Obstetras del Paraguay
Year of creation	1998
Number of members	380
Operated at a national level; regional level	Yes; Yes
Membership fees	10,000 Guaraní ($2.30)
Association affiliated with International Confederation of Midwives; International Council of Nurses	Yes; No

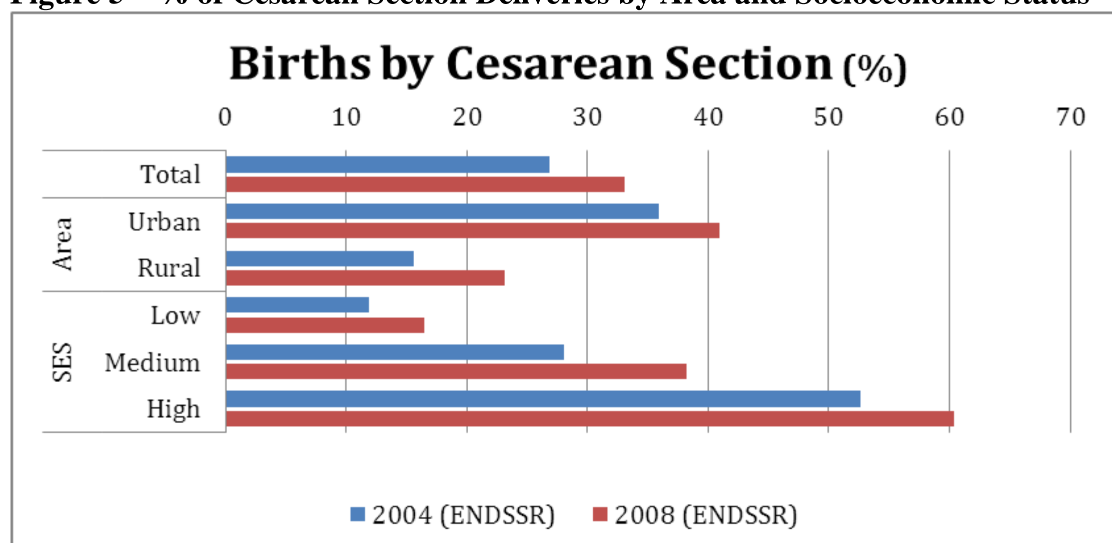
Source: Data collected through UNFPA questionnaires from 2011 president of AOP

Table 7 – Maternal and Newborn Policies

Health Policy	
A national maternal and newborn health policy exists	Yes
Compulsory notification of maternal deaths	Yes, within 24 hours
Compulsory notification of births	No
Policy for free access to maternal health care services	Yes
Policy for cost recovery (patient's contribution)	No
Policy for social security or health insurance	Yes 1. IPS (Instituto Prevision Social) an employee health system 2. Private health insurance 3. Ministry of Health and Wellbeing (free for all)
Conditional cash transfer policy	No
Incentives for patients to encourage hospital delivery	No
Incentives for midwives to practice in remote areas	No

Source: Data collected through UNFPA questionnaires from MOH

Figure 5 – % of Cesarean Section Deliveries by Area and Socioeconomic Status[4]



Findings from qualitative data

In the following section the pronoun "she" corresponds with midwife and "he" with physician. Male and female midwives and physicians participated in interviews and

small group discussions, but in an attempt to protect anonymity the above pronouns will be used.

Participant observation

The PI on this project visited 6 public hospitals in 5 different health regions (Table 8).

Table 8 – Paraguayan Public Hospitals visited by PI, June-July 2011

Health Region	Hospital
Capital	Santísima Trinidad Maternal and Child Hospital
Central	Limpio Maternal and Child Hospital San Lorenzo Maternal and Child Center
Cordillera	Caacupé Regional Hospital
Guaira	Villarrica Regional Hospital
Misiones	San Juan Bautista Regional Hospital

At all of these hospitals the maternity units are referred to as *la guardia* and consist of an admissions area, an obstetric emergency area, labor and delivery rooms, postpartum rooms, an operating room, and rooms where patients are admitted for observation. The Villarrica Regional Hospital is approximately 4 hours east of Asunción in a rural region of the country, known as the interior. Due to the long distances patients have to travel to get to the hospital to deliver, there is a *Sala de Embarzada*. This is a room of 6 beds where women, who live far away from the hospital and are high-risk or close to delivery, will stay. The Limpio Maternal and Child Hospital is part of the Korea International Cooperation Agency (KOICA) Program. In this hospital, the physicians are responsible for the management of labor as well as the vaginal and cesarean deliveries.

In all hospitals visited, there was one labor room per maternity unit, typically with 3-4 beds for laboring women. One labor room had 6 beds; however, 3 of these were being used for observation of high-risk patients. At one hospital, there were 2 labor

rooms with 2 beds each. There is very little privacy for women in labor; only one hospital had curtains between beds.

The PI was not able to observe births at all the hospitals visited. She observed a total of 11 deliveries: 10 vaginal deliveries and one cesarean section. Five of the vaginal deliveries were attended by midwives, 2 by midwifery students, 2 by physicians, and 1 by a resident. The PI observed the management and care of 12 laboring women. She logged approximately 35 hours of participant observation over 7 weeks. At these same hospitals the researcher also observed 7 student midwives from 2 different universities.

The PI noted that women were often responsible for bringing their own gowns and sheets for the beds. In some hospitals there were extra sheets available if a woman did not bring her own however, women often labored on bare mattresses. In some cases, women used their coats for pillows if they did not need them for warmth. On extremely cold days, providers wore winter coats over their scrubs in one hospital. Providers were rarely observed washing their hands when working while moving from patient to patient; many hospitals did not have soap or towels available to dry their hands. At one hospital, providers used the same towel to dry their hands after washing without soap and in another, they dried their hands on the cotton from the delivery kits.

During the PI's observation, no family members were allowed to enter the labor or delivery rooms. Even first time mothers and adolescents were not allowed to be accompanied by their partners or mothers. The PI observed oxytocin being administered in 9 of the 12 laboring women. When oxytocin was used for induction or augmentation, it was placed in the IV fluid and administered without a pump. There was no continuous monitoring, even when using oxytocin. When monitors were available the midwives

often chose to use the fetoscope to monitor fetal heart tones, however, the Doppler was also used by some midwives and most of the physicians. Midwives monitored contractions through palpation, not monitors. Physicians and midwives ruptured membranes using what was observed to be a sharp metal hemostat. Women usually labored lying flat on their backs and only got up to go to the restroom with assistance from a nurse or midwife. At one hospital a woman was laboring sitting on a high stool, but only briefly. The PI never observed providers offering women water or food during labor, or the administration of medication to provide pain relief for laboring women. She also never observed midwives or physicians providing choices to women regarding their labor and delivery or fully explaining any procedures or medication administered during labor or birth.

The PI observed that once a woman was completely dilated and ready to deliver she was taken down the hall to the delivery room. In one hospital the women were taken to the delivery room by wheelchair, if available, however, in the other hospitals they walked to the delivery room. Even for an emergency cesarean for severe fetal distress the woman walked to the operating room. In the delivery room there were usually 2 delivery beds. Normally women climbed onto the delivery bed using a step stool. The beds were usually covered with red biohazard plastic. The women were in the lithotomy position for birth with the provider sitting or standing at the foot of the bed. The PI noted that once the women were in position they were given very little time to push; even for nulliparous women the baby was delivered in less than 30 minutes from the time she left the labor room. At one delivery, the PI observed a physician yell at a nulliparous woman to push; when she was pushing ineffectively, another doctor began to apply strong fundal

pressure on the woman's abdomen. At 3 out of 5 births observed at 2 other hospitals, a staff member or provider applied fundal pressure while the mother was pushing. When the PI asked a physician about this intervention, he replied that it is a common and evidence-based practice according to their textbooks. In all observed nulliparous vaginal deliveries, (n=5) mediolateral episiotomies were performed after injecting the perineum with a local anesthetic. At over half of observed vaginal deliveries (6 out of 10) the babies were placed on the mother's chest after delivery and the provider waited to clamp and cut the cord until after it stopped pulsating. However, at 2 out of the 3 deliveries the PI observed at one hospital, the umbilical cords were immediately clamped and cut and the babies were taken directly to the pediatrician without having contact with their mothers.

The postpartum rooms the PI saw had 6 to 10 beds in them with a shared bathroom in the room or down the hall. The newborns stayed with their mothers in the postpartum room. Women stayed at the hospital 24 hours for a vaginal delivery and 48 hours for a cesarean section. Family members were allowed in the postpartum room during visiting hours.

Perspectives of birth

In the discussion of birth, midwives, physicians, and student midwives used a variety of terms including normal, natural, and humanized birth. Normal birth is used to describe vaginal birth with or without medical interventions such as the placement of IVs, oxytocin, episiotomies, and amniotomies. For these providers, normal birth is not a term used to describe the normal physiologic process of birth, but instead a vaginal delivery. Almost all participants used the terms normal and vaginal birth interchangeably.

According to the majority of midwives and physicians, except those in physician-dominated hospitals, midwives are the providers in charge of normal births in the maternity unit and they try for a normal birth whenever possible, in this sense, they see themselves as promoting vaginal birth. Similarly, both groups of student midwives believed that normal birth should be promoted as long as there are no contraindications for the mother or baby. They viewed normal birth as better for the mother and baby and having fewer possible complications than cesarean deliveries. The term spontaneous labor was used by a quarter of the participants. This term was used to define a labor where no medications or interventions were used to accelerate the process. Spontaneous labor refers to a labor that is not induced or augmented, but women still have an IV and may have an episiotomy during the delivery. All providers used the word "*conducir*," literally meaning to drive, when discussing labor. To "*conducir*" labor refers to augmenting labor with medical interventions, most commonly administration of oxytocin.

Natural birth

All midwives viewed vaginal birth as a better option than a cesarean delivery for low-risk women and a mode of delivery that should be promoted in the country. Three quarters of midwives considered natural birth to be a good thing, but difficult to achieve in their circumstances, due to lack of staff, time, and resources. All midwives, physicians, and students described natural birth as labor and delivery without interventions, not even an IV. Two of the midwives and one group of student midwives (Student SGD 2) believed that in order to have a true natural birth it had to take place in the woman's home, not in an institution. One participant noted that natural birth happens

more in rural areas of the country, in the interior, where women give birth at home without interventions and are often attended by *empiricas*, traditional midwives. Another midwife stated that she preferred normal birth with fewer interventions, but in her description of fewer interventions she placed an IV, started oxytocin, and artificially ruptured membranes.

> "I at least do [low-intervention birth], I follow the policy and place an IV and fluids for whatever comes up, with a minimum oxytocin drip when she is 6 centimeters dilated, and at 7 or 8 centimeters I break the bag, and then she is completely dilated, and this has given me good results." (Midwife 10)

All midwives reported that they do not routinely perform episiotomies. However, one midwife stated that when instructing students she has them cut episiotomies at every nulliparous delivery so that they can practice, implying that episiotomies are taught as a routine procedure for first time births. She also noted that older midwives tend to cut episiotomies on most patients. One group of student midwives believed that episiotomies could be useful in avoiding large perineal tears but clarified that they should not be used routinely, only when necessary. At one hospital, the midwife rejected the idea of routine episiotomies and stated that someone had come to the hospital and provided evidence that episiotomies should not be done routinely and that this had lowered the use of the procedure in their hospital (Midwife SGD 2).

Fear and uncertainty of natural and low-intervention birth

Midwifes unanimously reported that natural birth is good but half were uncertain about natural birth due to complications that might arise. They are afraid that complications will occur and they will not be prepared to manage the problem. Most midwives stated a need for an IV for all patients in labor in the hospital, just in case something happens.

> "[Natural birth] has its advantages and disadvantages. You have to be practicing tomorrow, and tomorrow, and tomorrow, because at any time things can go wrong." (Midwife 7)

In contrast to this view, one midwife shared her experiences working in a rural area of the country where she attended many natural births with indigenous women. This midwife did not seem to fear low-intervention birth or complications that might arise.

> "But sometimes I did spontaneous and even natural. Indigenous [patients] would come, she wanted to squat, so they squatted. I had to put a gown on like that, I had a nurse and a gown and a glove so the baby would not fall, right, there on the gown." (Midwife 11)

Two midwives viewed natural birth as difficult in Paraguay due to fear of being sued for malpractice. They reported that women thought they were not being taken care of if interventions did not take place and they would sue the provider if something happened during the labor or delivery.

> "It is a medical malpractice issue. When the patient comes and we don't put IV fluids, we aren't attending to them, right. The patients think we aren't taking care of them. They don't know. Or they don't feel that monitoring their contractions, monitoring the fetal heartbeat, monitoring the descent of the head, and monitoring the dilation of the cervix, for them, they aren't being taken care of. To be taken care of is to put IV fluids, and an analgesic. So, if something happens during a natural birth, for example, if the baby is born hypoxic or is born with a or b bad thing, the patient will sue you for not taking care of her." (Midwife 10)

A quarter of midwives, as well as two students in the second small group, did not see natural birth as an option for many of the women who deliver at the public hospital because they come in with incomplete prenatal care. They considered these women to have an increased risk for complications during labor or delivery.

Unlike the midwife participants, only one physician mentioned fear of natural birth or increased complications or risks with natural birth. Physicians liked the idea of natural birth and noted that natural birth is healthier and has fewer complications than

those with many interventions. However, no physician thought that natural birth, or even low-intervention birth, was possible in the current system due to lack of space, the high volume of patients, and inadequate infrastructure.

> "For the reduction of space we often don't opt for natural birth…and we aren't able for the patient to have a natural birth, she needs to be with family and we don't have space. We can't have a patient outside of the area…Of course it's physical space…Of course. There isn't enough for this, to have a natural birth. But in the case that there was infrastructure, a natural birth would be good…And like I told you, because of the physical space we have to do interventions…because we have 3 beds. Three patients are admitted and we have nowhere to put them…But I think that in places where there is more space, where there is a labor room…Where there is a nice labor room, it is possible…It is always better… Natural birth is always better, right, less complications." (Physician 3)

Only one physician saw natural birth as riskier than normal vaginal birth with interventions.

> "Because of the tear. Because this has to go naturally, very natural. But if the baby is a little big and is born abruptly and there it tears everything. That is the risk, sometimes as all [midwives] aren't trained for this. They are better trained for normal birth or to cut. So they simply choose what they know and not what they don't know, and that's it." (Physician 8)

However, a physician that works at the same hospital noted that midwives are very well trained to resolve complications, including tears during childbirth.

At the hospital where midwives do not typically do vaginal deliveries a physician commented that doctors do episiotomies on all nulliparous births, they will always do an exam to see if the passage is large enough but it rarely is and the physician cuts an episiotomy. According to another physician at the same hospital, routine episiotomies are not performed.

Three midwives and one group of students viewed natural birth as a good thing but not an option for all women. These participants thought natural birth was not

appropriate for nulliparous women because of an extended labor, and that acceleration of labor with oxytocin is better so that the mother and baby suffer less.

> "I think [natural birth] is very nice, or that I've seen, I don't know until what point it is positive, because the purpose is that the baby is born, isn't that right? And if there is a good augmentation of labor and if you are closely leading the labor, why prolong the agony of the patient. If we can help her with this to be a little bit shorter, but always with our support, always guided by us. Instead of 10 hours waiting for the birth of the baby we can shorten it to 5 hours of labor." (Midwife 5)

Humanized birth

Another term used in discussions of birth is humanized birth. Midwives and physicians use this term interchangeably with natural birth. When humanized birth was discussed with providers, it was thought of as a process that happens without any medical interventions. This concept was usually discussed in terms of interventions. None of the physicians or midwives discussed humanized birth in terms of how women are treated during labor and birth and only a quarter of midwives and one physician considered respecting women's choices, such as her preferred position for delivery, an important aspect of humanized birth.

> "Normal birth here in hospitals is when you have IV fluids, you augment labor with oxytocin and all that, and humanized birth is without an IV, without anything. It's natural and spontaneous. But you always have to keep an eye above." (Midwife 9)

During participant observations, there was one fetal death during labor. One of the midwives commented that the birth was humanized, and for this reason, she does not always agree with humanized birth. She explained that the woman in labor, a 15-year old girl, came in the night before. They did not break her water or start oxytocin until the next morning, which is why the midwife considered this to be humanized. The midwife

thought that if the providers would have intervened the night before by performing an amniotomy and starting oxytocin that the baby would have survived.

A quarter of the midwives and physicians, and one of the midwives in one of the small groups, believed that humanized birth or natural birth without any interventions only happens in the hospital when a grand multiparous woman (a woman who has given birth more than 5 times) comes in completely dilated and gives birth immediately. They are not afforded the time to intervene in the labor process, so they consider it natural or humanized.

> "If a patient come into the hospital in advanced labor, that is as if it was humanized. The patient is completely dilated, she has her birth without any interventions, without oxytocin, and anything that is involved in the preparation." (Physician 7)

One midwife commented that humanized birth also happens when a woman comes in and all the beds are full, so they send her to walk and return to be monitored. She completely dilates before there are available beds and delivers without interventions. This type of low-intervention birth seems to happen more often due to lack of beds or professionals, not for the sake of providing humanized birthing options or low-intervention care.

Only one physician pointed out that a woman needs someone to accompany and support her during humanized birth. A quarter of midwives and the third small group of midwives also expressed the importance of having family at the labor and birth for it to be humanized or natural, but admitted that this does not happen in their hospitals. Both midwives and physicians cited privacy as the reason to restrict family from the maternity ward. The PI observed minimal concern for privacy in most hospitals. The door to the labor room was almost always open for staff to look in when walking by, no curtains or

sheets were used to protect a woman's privacy during vaginal exams, and sometimes there was an audience of strangers, made up of hospital personnel, midwifery students, and an American researcher, at the delivery.

A different view from students

Unlike the providers, student midwives expressed a more holistic perspective of natural and humanized birth. Participants in both groups explained a perspective of humanized birth that was focused on the treatment and care of the woman in labor, not just a lack of interventions. Students also verbalized the importance of giving women choices and providing them with psychological support. Both groups thought that interventions such as shaving and enemas should not be used, and were considered degrading.

Students in the first group reported that natural and humanized birth is not something they have seen practiced in the hospital. They see many inductions and augmentations of labor and humanized and natural birth is only something they talk about theoretically at the academic level. Students from the second group reported that some instructors in the hospital teach the students how to provide humanized care and others do not, but realistically, once they are in the hospital they have to follow the protocol of the hospital and provide care in the way the midwives and physicians want.

Student participants saw humanized birth as a natural process, where a woman is provided emotional and psychological support, ideally by someone she knows.

> "To begin with, the woman is pregnant, she isn't a sick person. Don't refer to her as a patient. She is not sick. And pregnancy, labor and birth are natural physiological processes of the woman. With a humanized birth first the woman should have emotional support from someone she knows, something that we don't do here, because it is also difficult for the culture and for the people. She shouldn't have an IV, that it should be totally natural, not to use oxytocin…that

> the contractions are triggered normally. Don't hurry the labor and all of these things. Preferably, humanized birth is in the home, that's the definition, not in the hospital." (Student SGD 2)

Students perceived humanized birth as a process where the woman gets to make choices about how, in what position, and with whom she gives birth. They believed that ideally a humanized birth is a vaginal birth without interventions, however, with interventions, such as the placement of an IV or even a cesarean section, care should still be humanized regardless of how she delivers.

> "At least in the treatment, right. The treatment with the mother in her place, talk to her, explain everything to her because I believe that humanized birth relies heavily on this as well. So if you can't do a totally physiologic birth, or without interventions, alright, at least in the treatment you can be with her, accompanying her." (Student SGD 2)

The second group of students also explained that the humanized birth process should begin in the preconception period and continue throughout the pregnancy and that humanized treatment should be the entire 9 months, not just during the delivery.

Students in both groups were concerned about treatment of women during labor and delivery. They reported that physicians often did not perform complete exams, and spoke to women in medical terms that they usually did not understand. They also noted that some midwives were cold, bitter, and treated women poorly, however, they spoke of others as being "*cálido*" or warm and providing "*humanitario*" or humane or caring attention.

> "And it's sad, in the hospitals the midwives of the maternity unit are all the ones that, in one word, they are so bitter, they treat the patients so poorly. And this is something that you can't change. Or it is just that we try to have this mentality that we have now and always take it throughout all our work...because I know graduates, that graduated from here too that are young and they treat the mothers really poorly…One can't change the old midwives that are there, well, we have to be the change." (Student SGD 2)

Students also expressed concern about women's lack of privacy. They reported that there are often multiple people around the woman for cervical exams, furthermore, providers do not ask for permission from the woman to perform the exam, and providers usually do not explain what is going on or what is going to happen to them, they just tell them what to do. In multiple hospitals, the PI observed lack of privacy during cervical exams and a lack of explanation of procedures or use of medications by providers. However, the PI also observed a midwife pray with a patient who was concerned about her pregnancy and observed midwives provide words of encouragement during labor, as well as midwives who related well to their patients and spoke to them in Guaraní, their native language.

Barriers and facilitators to low-intervention birth

Providers and students identified multiple barriers that contribute to the inability or difficulty of providing low-intervention labor and birth services. Unfortunately, fewer facilitators to providing this type of care could be identified.

Lack of prenatal education and preparation

Midwives unanimously reported that lack of education was a major barrier to vaginal birth, with or without interventions. All midwives claimed that women were not prepared for birth during their prenatal care and that the system lacks childbirth education classes. One midwife believed that childbirth education classes are not available for women because they will not show up to the classes, due to either finances or laziness, but she also thought that education was the biggest barrier to vaginal and low-intervention birth. Midwives all expressed concern that women arrived at the hospital and were not prepared for labor or delivery. They stated that women did not know that

labor was going to be painful or how to do breathing exercises to cope with the pain. Over three quarters of midwives expressed a need for psychological and emotional preparation throughout pregnancy, because "women are not prepared to receive the information when they get to the hospital and are in labor. Information should be provided in the prenatal period" (Midwife 2).

All midwives believed that prenatal education is very important for their patients. They unanimously stated that education in prenatal care needs improvement. A quarter of physicians mentioned lack of preparation and prenatal care education as barriers to normal or low-intervention birth.

> "The truth is that there isn't good prenatal care, right. There are not classes, right. They don't prepare the patient, they don't explain what labor is like, right, what she is going to feel. There's not preparation so they arrive here and they don't know anything. It's difficult to work with them because they weren't prepared, they didn't have classes, right. These breathing techniques don't exist." (Physician 7)

Preparation for possible complications

The second group of students discussed the fact that low-intervention birth is difficult to carry out in the hospital because providers are always attempting to be prepared for any complication that may arise. According to these students, the option of low-intervention birth and especially natural or humanized birth is unattainable because they must always be prepared for possible birth complications. The concept of fear and uncertainty of possible complications was discussed in the previous section. Half of midwives expressed a need to intervene in labor and birth in order to be prepared for possible adverse events that might arise.

Prenatal care provided by physicians versus midwives

According to participants, physicians provide the majority of prenatal care in and around Asunción, and in some areas of the interior. The second group of students pointed out that midwives should be providing prenatal care, rather than physicians. They thought midwives were able to provide more complete and humanized care in the prenatal period than physicians. Half of midwives interviewed, as well as the second group of midwifery students identified a difference in prenatal care provided by midwives and physicians and argued that the care provided by midwives is more comprehensive and provides better preparation for birth.

> "Another barrier for example, would be prenatal care. If we started from there and prepared them for the basics. The physicians don't prepare them in basic education of public health. The basics, to bring a gown, right. When they see a midwife it's different when the patient arrives, they even come with their toothbrush and comb, right. They come very prepared. It's very different." (Midwife 6)

> "I personally think midwives do prenatal care much better. I think we are more careful." (Midwife 2)

> "I did a prenatal care clinical internship in Hospital X and there was a midwife who had been doing prenatal care for many years. She provides complete prenatal care. She provides gynecological care for women and the patients only want to see her for prenatal care. My classmates say in other hospitals they stand against the wall and write down what the physician says or only measure the fundal height and that's it. With her you do prenatal care like it should be done. Just you and her." (Student SGD 2)

At one hospital visited, the 2 midwives interviewed reported that prenatal care had changed over from the physicians to the midwives in the last year and they believed that this had improved the rate of vaginal births at that particular hospital.

In midwife small group discussions the same issue with lack of prenatal care education was reflected. They believed that women are not psychologically prepared for

labor and birth and that this results in more cesarean sections. Midwives in the first small group claimed that lack of psychological preparation during prenatal care, which was provided by residents, is the reason for the high rate of cesarean sections in their hospital.

The second group discussion took place at a hospital where a midwife was responsible for the prenatal care. These participants agreed that women are not prepared for labor and noted that there is a high volume of patients (25 patients in 4 hours) for the midwife to see and it is impossible for her to prepare these women for labor and birth in that amount of time. This group also noted a need for special prenatal care for adolescent patients and first time mothers. Midwives in the third small group reported a lack of preparation for women by the physicians who provide prenatal care.

> "In prenatal care I often see physicians, for example, in my hospital, right, in my hospital the physicians always do prenatal care. They see a lot of pregnant patients and between them gynecological patients and they really don't take the time to explain the process that is going to happen. Like what birth is going to be like, what labor will be like, how she can prepare for birth. It's that they really don't have time. So these pregnant women end up in the maternity unit, right, and for example, she doesn't know breathing techniques, she is scared, she doesn't know enough about it. But if it's her first baby, if she is a nullipara, if she is a multipara, her previous experience guides her. But a lot is lacking. I have seen that in prenatal care if one prepares, and counsels, and educates the pregnant woman, like other patients, she will be able to do it. I think that education and guidance has a big influence, but in prenatal care. And they arrive late and complete and about to give birth, and you don't have time. They started late, they have to start from the first moment, this is what I think is lacking the most." (Midwife SGD 3)

Unwarranted cesarean sections

Nearly half of the midwives interviewed thought that prenatal care, more specifically, the physicians providing prenatal care were barriers to vaginal birth. These midwives reported that women often came into the hospital thinking they were going to have a cesarean delivery because that is what the prenatal care provider told them.

Midwives explained that they often had to convince women to have a vaginal delivery. Midwives explained that the prenatal care physicians would prepare and schedule women for a cesarean section, and at times women would request a cesarean section from their prenatal care provider. Midwives discussed how challenging it was to change the woman's mind when she arrives at the hospital with the idea that she is going to have a cesarean section.

> "[Prenatal care] is where you have to start, to change the mentality a little, because that is where the problem begins. The physician prepares her "look you can't have the birth or birth is more painful, you have to ask to be scheduled for a cesarean section." Right. The patient comes with this in mind, and to get this out of their mind at 9 months, you won't be able to change her mind." (Midwife 6)

Half of these midwives and one small group of midwives reported that if a woman comes to their hospital and they refuse to give her a cesarean section she will go to a private physician and pay to have a cesarean if she has the means. All three focus groups brought up the issue of unjustified scheduled cesareans by prenatal care providers.

There was variation in midwives' statements pertaining to cesarean sections, with contradictions existing within and between interviews and small group discussions. Half of midwives reported that physicians in their hospital only perform cesarean sections when needed, not just because the woman requested it or because it was scheduled by the prenatal care provider. However, other midwives reported that physicians would do cesareans if the woman was in pain, wanted a tubal ligation, or the patient or family had requested it.

The midwives in the small groups have varying experiences. The first small group of midwives works in a teaching hospital where residents are trained. They reported that residents have specific goals each year. In their first year of residency they

need to attend a certain number of vaginal deliveries and in the second year they need to perform a certain number of cesarean sections. These midwives were concerned that the aim of first year residents was to speed up labor so that they could attend a vaginal delivery during their shift. They reported that the residents do a large number of interventions in order to accelerate labor. They were also concerned that the second year residents' aim was to operate so that they could gain experience doing cesarean sections.

In contrast, the second small group of midwives, who do not work in a teaching hospital, stated the physicians they worked with were not *muy cesaristas*, do not push for cesarean sections. This group of midwives stated that they work together with their physicians to convince women to have vaginal deliveries. They commented that they work as a team with the physicians, and make decisions about vaginal birth and cesarean sections together. The third group of midwives work at various hospitals. One reported that women at the hospital where she works would schedule a cesarean section through their prenatal care physican and they would come to the hospital and get the cesarean. Another midwife in the group explained that one of the physicians she works with will schedule a cesarean section for a nulliparous woman who is of advanced maternal age (over 35 years old), or if a woman has a gestational age of 40 weeks, because he does not want to induce labor with these women. Once again, she explained that she has a difficult time convincing these women that they can have vaginal deliveries. Another midwife in the group stated that physicians at her hospital only do cesarean sections when absolutely necessary.

No physicians identified the issue of unnecessary scheduled cesarean sections during prenatal care as a barrier to low-intervention birth. A quarter of the physicians

commented that cesarean sections have more complications and morbidity than vaginal birth. They also reported that they perform cesareans only when absolutely necessary. In discussions about cesarean section rates at their hospital, physicians' statements varied. One commented that cesarean section rates at his hospital were not too high, or only a little higher than in other areas. One admitted to a 50% cesarean section rate. These high cesarean section rates were justified by the complexity of their patients, the fact that they work in a public hospital, or because they are a referral hospital, according to physicians. Some noted that they try to do vaginal births whenever possible. One physician commented that it is dangerous to do cesareans without an indication, because when complications happen and you have operated without a reason they will ask you why you operated.

Lack of resources

Midwives unanimously responded that lack of resources, especially beds, was a major barrier to low-intervention and natural birth. Most midwives reported that they had to use interventions, usually oxytocin, to accelerate labor because the hospital did not have enough available beds to allow women to labor naturally.

> "The majority, of 100, 80% of them are augmented due to the problem that we don't have many available beds. We would like to do humanized births, but we only have a few beds and many of patients, and a little space. The faster my patient [delivers] I can bring in another patient [to deliver]. This is the problem." (Midwife 5)

> "Here, because of few available beds we always have to clear the place faster, so we always do interventions." (Midwife 2)

Midwives in the third small group agreed that due to a lack of available beds and a high volume of patients providers have to use interventions to accelerate labor. One midwife in the group reflected that she can leave women to progress spontaneously at

night but this is not an option during the day. One of the midwives interviewed also brought up this issue. She stated that she could leave women to progress on their own in the evening as long as the fetal heart tones were good but during the day this was not an option, "during the day [the doctors] hurry you" (Midwife 11).

Half of the physicians interviewed also regarded lack of space and beds as a barrier to low-intervention or natural birth.

> "We only have 4 beds in the labor room, so unfortunately what happens is that we can't give women a lot of time to have a natural birth so we choose to augment with oxytocin." (Physician 6)

A quarter of midwives viewed lack of human resources as another barrier to providing low-intervention birth. They recognized that women need more support during labor and felt that one-on-one midwifery care would be ideal. The third group of midwives also identified a need for more midwives in the maternity unit to be able to provide more humanized care to women in labor.

The influence of family on birth

Half of the midwives interviewed and 2 small groups of midwives discussed the influence of family on low-intervention birth in the public hospital. Again, families are not generally allowed to enter the labor or delivery rooms in public hospitals. Family was seen as a barrier, instead of a facilitator, for low-intervention birth, due to their elevated anxiety or their expectations of scheduled cesareans, according to midwives. However, a quarter of midwives regarded family support during labor as a positive driver for low-intervention care. The second small group viewed the family as a barrier when women would come to the hospital expecting a cesarean section. These midwives would work hard to convince the woman that she could have a vaginal birth but the family

would convince her otherwise. In the third small group, one midwife described a situation where the chief physician allowed the husband into the labor and delivery rooms to support his wife. They allowed him to enter because there were very few patients on the maternity unit and because the woman knew some of the staff members. The midwife described the experience as very natural and beautiful because the husband was able to help and encourage his wife. She explained that this type of birth experience rarely happens in her maternity unit but she thinks family support can be a positive influence for natural and low-intervention birth. The other midwives in the group saw family as a barrier to low-intervention or even vaginal birth. They viewed family members as a negative influence during birth, who often upset and pressure the woman and providers, sometimes to the point of obtaining a cesarean.

> "The people with [the woman in labor] are often the most difficult, not the patient. She doesn't complain, the one that is yelling is the family, right, "Why aren't you paying attention to her? Why don't you do this?" They want to make the decisions for you, and if it doesn't happen they are going to run to the director or some guy in the Ministry and say, "I brought my relative and they ignored her." So the person that is going to accompany her needs to be well prepared. Both the person that is going to accompany her and the mother in the moment of the birth…both have to be prepared. Because there are times when the patient is calm, and the family is the one having the baby, with high blood pressure, and a headache. The person accompanying her is a disaster and she is calm." (Midwife SGD 3)

Half of the midwives interviewed also viewed family as a barrier to more natural or low-intervention birth. Two of these midwives blamed the mother or mother-in-law for being the negative influence on the labor process. Instead of being a support for their daughters, these midwives viewed them as creating more anxiety or fear for the woman. Some of the participants also noted that the family is not prepared or educated about labor or birth, and this is part of the problem. A quarter of midwives reported that

patients or their families threatened to go to the press because they felt like the woman was not being well attended to in the hospital. These midwives thought that women and their families wanted more interventions during labor and that more interventions were seen as better care. This was also brought up in terms of medical malpractice and the fear that patients would sue if there were bad outcomes during a natural or lower-intervention birth.

A quarter of the physicians interviewed cited family as a barrier to low-intervention or natural birth due to either increased anxiety produced by family members or family members believing that cesarean delivery is less dangerous than vaginal birth and therefore necessary. However, half of physicians, including one that viewed family as a challenge, thought that it was important to have family accompany the woman during labor and birth.

Lack of support by physicians for low-intervention birth

Half of midwives felt that there is little or no support from doctors for low-intervention birth. These midwives felt that they were expected to use interventions in labor and birth and if they do not, the physicians would write orders for interventions or tell the midwife that she needs to accelerate the labor. One midwife reported that physicians would come in, perform and amniotomy on a woman, and tell the midwife after the fact. Half of these midwives did not have a problem with interventions or lack of physician support for more natural birth because they believed interventions were necessary due to the lack of space. However, nearly half of midwives felt that physicians were creating conflict and do not respect their opinions in regards to low-intervention birth. Midwives from one physician-dominated hospital felt that they have no control

over interventions in labor, they do not make decisions about interventions, and they have to carry out the physicians' orders regarding interventions during labor. It is important to note that midwives felt support from physicians was dependant on the maternity unit and the chief physician.

Facilitators of low-intervention birth

As stated above, midwives believe that they tend to provide more comprehensive prenatal care and can more effectively promote vaginal birth. Over a quarter midwifes reported that they promote natural or low-intervention birth through the decisions they make for women in labor or care they provide in the prenatal period. When asked what she was doing to promote natural birth, one midwife commented, "with the way I make decisions, with my decisions and how I guide women…for example I leave the patient to dilate on her own, guide her so she won't be afraid, explain to the patient, and in decisions of admissions [of patient to the hospital]." (Midwife 4)

A quarter of midwives admitted that they do not promote natural or low-intervention birth and they do not think most other midwives actively promoted this type of care either. All midwives believed they promote vaginal birth by accompanying women in labor, supporting them emotionally, and guiding them through the process. Many noted they provide encouragement and massage and discuss the advantages of vaginal birth with their patients. This was also discussed in 2 of the 3 small groups of midwives.

Two midwives reported that some physicians promote vaginal birth because they do not want the work of performing a cesarean section. Two other midwives noted that

they have worked with physicians who promote low-intervention birth and will allow the mother to progress spontaneously without interventions.

Three quarters of physicians reported that midwives are promoters of vaginal birth. Physicians viewed midwives as providing psychological support and encouragement during birth in order to help women have vaginal deliveries. One physician noted, "The midwives accompany the patients more, we physicians rarely accompany them…We are more interventionists" (Physician 3). Another physician stated, "[midwives] have more contact with the patient…they are with the patient more than the physicians. They have a more caring point of view. They are closer to the patient" (Physician 5). A quarter of physicians noted that due to changes in the system, with fewer midwives providing prenatal care, and current policies it is difficult for midwives to promote natural or even vaginal birth.

Both groups of students discussed their promotion of vaginal birth as including some or all of the following: explaining to the woman pros and cons of vaginal birth, providing psychological support during labor, explaining everything that is going to happen to the woman during labor and delivery, providing a massage in labor, teaching her breathing techniques, and encouraging her throughout the process. The PI observed midwifery students providing massage, teaching breathing techniques, and giving encouragement during labor and delivery.

Role of the midwife

In Paraguay, midwives and physicians often work multiple jobs. Some midwives interviewed work a 24-hour shift at a hospital in the interior and live and work one or even two shifts in Asunción, or vice versa. Five midwives work in physician-dominated

hospitals, where the role of the midwife is limited, as well as team-based hospitals, and provide an interesting contrast between the two work environments. Others may work a 24-hour shift in the maternity unit and also work in a *Centro de Salud* or *Puesto de Salud*, Health Center or Health Post, providing prenatal care, family planning, emergency care, care of children, adults, and the elderly. One midwife described her role in the *Puesto de Salud* as a "*todologa*", one who does everything. Sixteen of the 22 midwives who participated in either interviews or small group discussion work at 2 different jobs and 2 work at 3 jobs. Seven of the 22 midwives have over 20 years of experience practicing midwifery in Paraguay. Midwife participants in this study have a range of experiences in many different settings, which provided a wealth of information as well as contradictions between and within interviews and small groups.

According to nearly all midwives, their role is to manage vaginal labor and birth in the hospital. They consider themselves responsible for the wellbeing of both the mother and the baby. More than three quarters discussed their role in terms of accompanying the women in labor, providing them with psychological support and guidance, and teaching them to breathe and cope with labor. A quarter of midwives also discussed their ability to write orders and prescriptions for their patients, however, they are not allowed to write for controlled substances, prostaglandins, birth kits for cesareans, or kits for a curettage. A quarter of midwives saw their role as the physicians' assistant or to support the physician in the maternity unit.

Views on midwifery roles at physician-dominated hospitals

Half of midwives interviewed and one small group of midwives work in physician-dominated hospitals, which limit the role and functions of the midwife. All but

two of these midwives reported they lack autonomy and decision-making in their positions in physician-dominated hospitals. Midwives at many of these hospitals felt that the physicians they work with do not respect their opinions as midwives. One of these midwives commented that older physicians, who were trained by midwives, have more respect and confidence in midwives and allow them more autonomy in the hospital. Some midwives commented that physicians think they are more important than midwives and denigrate them. Nearly all physicians interviewed from physician-dominated hospitals reported that supporting the physician was the role of the midwife and did not discuss the concept of working in a team when describing how physicians and midwives work together in their hospital. It is important to note that midwives felt that all physicians and all hospitals are not the same and a lot depends on a midwife's relationship with the physician. Virtually all midwives in the physician-dominated institutions viewed their work in these hospitals a hierarchy with the physician at the top making the decisions instead of working in a team. All of these midwives feel capable and well trained to fulfill their roles but many are frustrated, "because the physician is who makes the final decision, and as the midwife, I have to say, "Can I do this? Do I have to do this?" to the physician, when I feel capable to decide when something is good or when something is bad, when to go for a cesarean or when do leave the patient to dilate spontaneously" (Midwife 4).

According to some participants, midwives in many physician-dominated hospitals do not attend deliveries. Instead, they have a limited role of monitoring women in labor and carrying out the orders of physicians. Some also noted that it depends on each physician if they want to allow midwives to attend deliveries. One physician made it

clear that there is not a ban on midwives attending deliveries, however, "the physician of the maternity unit can say "go ahead midwife, you can do [the delivery]" but it has to be monitored" (Physician 6). One midwife in a physician-dominated hospital described her role and participation in decision-making in the maternity ward where she works:

> "If I do a cervical exam for example, and I see that she is complete I can take her to the delivery room, right. If the patient tells me that she has a lot of discomfort and needs to be examined, then I can examine her, right. And this is the maximum that I can do, right, no more than this. Or for example, you know that they need to start ampicillin for premature rupture of membranes so you tell the doctor, "doctor it's time to start [it]." Before, right, you tell them because sometimes they are busy and things like that. So you help [the doctors] in this sense, right. But these are more or less the decisions that midwives can make, right. Because we always do the orders of the physicians." (Midwife 8)

At one of the physician-dominated hospital, midwives continue to be responsible for vaginal deliveries, however, there is a lack of autonomy and according to two midwives, many of the physicians do not listen to the opinions or recommendations of midwives. One midwife felt that at this hospital the physicians write orders and the midwives complete the orders. However, another midwife at the same hospital admitted to writing her own orders without asking the permission of the physician, also commenting that physicians disapprove of this and often get angry with her for making decisions without consulting a physician. It is important to note that these same midwives stated that their level of autonomy depends on the hospital as well as the physician who is working in the maternity unit.

There are also teaching hospitals where midwives only do deliveries if the residents are doing another delivery or are unavailable. Midwives in the first small group work at a teaching hospital and reported that the physicians make all the decisions. They feel that they are powerless about actions regarding labor management and are dominated

by physicians. They would like to be able to make more decisions and stated that if they did “there are procedures that we would decrease” (Midwife SGD 1). They noted that the first year residents often consult with them about decisions or that the head physician will instruct residents to consult with the midwives. They imply that first year residents are more willing to consult with the midwives and respect their opinions more than senior residents. A midwife in the second small group, who also works at the same teaching hospital with the midwives from the above small group, felt very important and respected in that maternity unit. She reported that the head physician will ask residents what she thinks before going to assess the patient, and if she says the woman needs a cesarean section, they’ll go to the operating room, implying that her many years of experience have granted her the confidence and respect of the chief physicians. A midwife in the third small group, who works in a different university hospital, commented that residents want to get rid of the midwives in her hospital and that a lot of her co-workers have a difficult time working with residents, and feel they are under their command, and that they degrade the midwives. This midwife felt that she has autonomy and respect in her work environment but notes that many of her colleagues do not.

Two of the physician-dominated hospitals schedule physicians or midwifes in a different manner than other hospitals, which appears to influence their work environment. Typically, midwives and physicians are scheduled for 24-hour shifts, and nurses work 6-hour shifts during the day and a 12-hour shift at night. The schedule is set up so that physicians and midwives work the same shift, and work with the same team every week. Therefore, when participants discussed their team in the maternity unit they were referring to the same midwives and physicians they work with every week. At 2 of the

physician-dominated hospitals, either midwives or physicians have the shorter shifts of 6, 6 and 12 hours. Midwives that have alternative schedules, where the midwife or the physician are not working 24 hours together, viewed this as a challenge in building a relationship with their physicians.

> "[In the other hospital] you make friends, you are accomplices, I don't know, there is more rapport. Because the schedule is different here. Here the physician has 3 midwives, in the morning, afternoon, and night. There no. There it is 24 hours. I am with my physician 24 hours. It's just that he knows me and that's it, and you learn how he likes things and how he wants me to interpret things. Or with a look and we understand each other." (Midwife 9)

> "But the [doctors] you are with 24 hours, that you will fight and cry and laugh…to change each time isn't good, because one comes [and says], "we are going to start oxytocin" and she doesn't deliver in these 6 hours and [another doctor] comes for the night "No, why did you put this. No. We are going to stop it," he says." (Midwife 11)

Views on midwifery role at team-based hospitals

Most of the midwives who work at the physician-dominated hospitals also work at team-based hospitals. Midwives who work at team-based hospitals unanimously reported that they are able to make decisions about labor and delivery and feel that they have autonomy in their job. Over three quarters felt that they work in a team with the physician and that the physician supports the decisions they make in the maternity unit. Within the same maternity unit, some midwives report higher levels of autonomy than others.

One midwife compared her experiences in the physician-dominated and team-based hospitals. She described the physician-dominated hospital as a vertical structure with the physician at the top making all the decisions and the team-based hospital as a horizontal structure where midwives and physicians work as a team with more support. She noted that with the vertical form at the physician-dominated hospital there is an "air

of superiority, and everything is under [the physician] and small to them" (Midwife 9). She also felt that care between the two hospitals is different, noting that midwives are able to talk to the patient in a more pleasant and relaxed environment at the team-based hospital. However, other midwives reported that there is no difference in care provided to women at the 2 different types of hospitals.

Midwives made it clear that the relationship between the physician and the midwife is an important determinant in how they work together and their level of autonomy. The issues of confidence and trust were also significant in discussing the role and function of the midwife. Over half of midwives interviewed and one small group mentioned that their physicians have confidence in them and that this was important for working in a team in the maternity unit. Physicians also discussed the importance of having confidence or trust in their midwives. As one physician commented, "if your midwife is trained and is good, you'll let her do births until the sun comes up, right, but if you have doubts in your team you are playing with fire" (Physician 1).

> "I think that it depends on the maternity unit, this satisfaction with the group, that the physicians that are in the maternity unit have confidence in their midwife because if they don't have a good relationship then there's no confidence. So this will have drawbacks." (Midwife SGD 3)

Differences in the role of the midwife in Asunción versus outside of Asunción

Half of the midwives interviewed and 2 of the small groups brought up the issue of the role of the midwife in the interior. A quarter of midwives reported that there is a lot of work for midwives in the interior. They also noted that it is very hard work and there is often no physician to cover the maternity unit. Another midwife who worked in the interior for a year noted that midwives there have a lot of autonomy, are well respected, and are considered "the soul of the maternity unit" (Midwife SGD 3). She

also commented that the essential role of midwives in the interior made her consider the limited function she has in her current maternity unit at a physician-dominated hospital. One midwife who currently works in the interior confirmed that there is a lot of work for midwives, but that it is difficult to get midwives or physicians to come to the interior of the country to work.

> "There is a lot of work, it's that they don't want to come to [the rural area] to work. They lack many midwives. But they don't want to work here. They want to go and swarm in Asunción. In Asunción there are many physicians and all this weakens our profession. Because I think that if we were more distributed in the country, it would be stronger." (Midwife 5)

The same midwife verified that she has a lot of autonomy in her role as a midwife in the interior. She compared her role and autonomy in the hospital in the interior and the hospital where she works in Asunción. She believes that midwives in Asunción are often younger and have a more limited function. She noted that they tend to rely on the physician to resolve issues and are more dependent on the physician. She explained that in the interior, she always works in a team with her physician and they ask for each other's opinions on cases. She stated, "It's not that [the physician] decides on his own or that we decide on our own, it's always in a team" (Midwife 5). Midwives in the second focus group confirmed this increased autonomy that exists for some midwives. The hospital where they work is approximately 2 hours from Asunción and considered to be in the interior of the country. They claim that they are in charge of the vaginal births and if there are risks or complications the physician is with them for support, however, there are multiple shifts lacking physician coverage, placing full responsibility on the midwife to make decisions. They also reported that if they decide a woman needs a cesarean section the decision is respected by the physician. One midwife commented, "[the

physicians] are more our support than we are their support" (Midwife SGD 2). The physician interviewed at this hospital confirmed that the midwives and physicians work as a team and often make decisions regarding labor and delivery without the assistance of a physician. He also clarified that he consults only the experienced midwives on possible cesarean section cases. These midwives work in hospitals in the interior, however, this increased autonomy and responsibility in the maternity unit is not true of all hospitals in the interior. Other midwives interviewed who work in one of the physician-dominated hospitals in the interior have limited roles in the maternity unit.

Residents

The majority of the physicians and residency programs are concentrated in and around Asunción. All midwives who work at university hospitals denied that teaching the residents was part of their role as a midwife. Most commented that they have a physician in the hospital who has the responsibility of teaching the residents; however, the midwife is the one by their side during the delivery. A second year OB-GYN resident was interviewed and reported that the midwives are not responsible for teaching the residents, however, "they always give us their experience, and we are just beginning. We always listen to their experiences and what they have to tell us" (Resident 1). One physician noted, "I can say that everything I learned I learned from a midwife. Everything about managing complications in postpartum or during birth…because they are the ones that are behind you" (Physician 1).

Two participants commented that university hospitals do not utilize midwives or they limit them to working as nurses because the residents fulfill the role of the midwife. The small group of midwives that works at a university hospital confirmed that they are

not able to fulfill their role as midwives but may argue that the residents do not entirely fulfill this role either. One midwife commented that physicians and residents "act more scientifically, that's to say, they manage more of the technical side…they come and do an OB-GYN exam and they leave out the human part…The human warmth. However, midwives do the other role, that's to say, that we use our scientific knowledge, but we are also more caring" (Midwife SGD 1).

Midwives in the third small group discussed how they have seen midwifery in Paraguay change over the last few years due to an increase in residency programs. One of the midwives noted that the midwife used to be the soul of the maternity unit and the delivery room and recalled that midwives used to provide prenatal care. She described how only the people with money had the opportunity to go to medical school, so there were not that many doctors in Paraguay. The midwives and *empiricas* or traditional midwives attended most births. Then, as the group described, there was a political change in the country and many private universities opened, and many more people began to go to medical school. According to these midwives, most of the private universities do not require entrance exams, and are able to produce more physicians. But, one midwife explained, *hay poco espacio* there is little space for all these physicians in Asunción and they also do not want to go to the interior. So they stay in Asunción and "displaced the midwife from the place" (Midwife SGD 3). According to these midwives, the new physicians begin to look for positions but there are not any available so they take the jobs of midwives.

Two physicians also discussed the issue of numerous private universities; however, they were concerned about midwifery training, not physician training. These

physicians were concerned that the new private universities are not properly training midwives or providing them with sufficient clinical instruction and think it is dangerous for patients. Although the issue of unregulated private universities and midwifery training came up various times in informal conversations, it was not as prevalent in the interviews or small group discussions.

Space/place of the midwife

This issue of midwives losing their place or space was a common theme brought up by multiple midwives. Over three quarters of midwives and participants in all three small groups were concerned about being displaced or the role of the midwife being eliminated. Midwives blame various groups or institutions for being pushed out of their role. Some blame the Ministry of Health for discriminating against midwives and favoring nurses. Others blamed physicians and nurses for the decay of their role, reporting they feel disrespected by these groups. These midwives reported that they work well with the physicians and nurses on their teams and feel respected by them personally but feel the larger institutions of medicine and nursing want to eliminate their role. Three midwives blamed only physicians and stated that they would not give midwives their space or that they are constantly fighting for their space within the medical community. Some midwives did not blame a specific group but felt that their roles are being diminished in the health system.

> "[Physicians] won't give us our place. They won't give us our place as midwives, so we are lowered a little, right. It's unfortunate, we can't do what we really want. We do it with fear because we are always under the orders, under pressure of the doctors. So, it's very low." (Midwife 8)

The small groups of midwives echoed the same themes. Participants in the first small group felt that certain projects like KOICA are limiting the role of the midwife to

nursing care. One midwife also believed the Ministry of Health was going to limit her role as a midwife. The second focus group commented, “There is a lot of work but they won’t give us our place” (Midwife SGD 2). According to this group, there are many places that need midwives but they fill the jobs with physicians instead. Midwives in the third group also felt that programs like KOICA were limiting their functions as midwives. They also blamed the increasing number of physicians in Asunción as well as residency programs that want to eliminate midwives from hospitals. Two midwives noted that unlike nurses, midwives do not take to the street to protest for their rights. Many other midwives noted that as an overall group midwives are muted or silent so, they do not demand that their voices be heard or given rights as a group of professionals. It was also noted by two midwives that nurses will leave their posts in the hospital to go protest and the midwives are left in the hospital to cover their shift. One midwife noted, “the nurses always get what they propose because they go, leave, they yell and protest, while the midwives are in the maternity unit covering everything and when they leave they don’t fight for their rights” (Midwife SGD 3).

Professional conflict with nursing

In informal conversations with midwives, the issue of professional conflict between nurses and midwives was discussed repeatedly, however, this was only hinted at in the data. The third small group discussion of midwives brought up the issue of a rivalry between nursing and midwifery. They speculated that the rivalry comes from the role of the midwife and their ability to write orders, which the nurses must complete. A quarter of midwives felt that the Ministry of Health discriminates against midwives by providing nursing more support and rights as a group. According to informal

conversations, many midwives are not able to get jobs in midwifery and are forced to find work in the field of nursing.

Chapter 5: Discussion

The aim of this study was to assess the role of midwives in the Paraguayan health system, their perspectives on birth, and their potential role in promoting low-intervention birth. Small group discussions and in-depth-interviews with midwives and midwifery students were used to answer research questions pertaining to the role of the midwife and their perspectives on natural and low-intervention birth and medical interventions. Interviews with physicians also took place in order to answer the research questions pertaining to the role of midwives and their potential to promote low-intervention care. In the current system, midwives have very little potential to promote natural or low-intervention birth outside of the maternity unit, since they rarely provide prenatal care or childbirth preparation classes. Within the maternity unit midwives who work in team-based hospitals have greater autonomy and more potential to promote low-intervention birth through their decisions around labor and birth interventions for their patients. Midwives in these institutions feel there are many barriers to natural or low-intervention birth and do not see this as an option for many women who deliver in their hospitals. Midwives in physician-dominated institutions have far less autonomy or ability to promote low-intervention birth.

Conclusions

Based on the above findings, it appears that the role of the midwife is limited at some institutions in the Paraguayan system. Midwives lack autonomy and are not part of the decision making process in some maternity units; at other hospitals they have a lot of autonomy and are the lead providers of laboring women and main attendants at vaginal deliveries. In physician-dominated hospitals, midwives' roles have been transformed into

more of a nursing support role. In more team-based hospitals where midwives are not able to support women in labor and birth, the lack of resources or physician support limits their ability to promote low-intervention birth. Unfortunately, in both models of care, women are not provided family-centered care.

Multiple interventions take place during the labor and deliveries of healthy women. In both types of institutions (physician-dominated and health care team approach) multiple barriers exist which limit providers from offering low-intervention care. One of the most limiting factors is the infrastructure of the hospital. Inadequate space and available beds result in the medicalization of birth with the overuse of interventions such as oxytocin and amniotomies. In physician-dominated hospitals, midwives lack the autonomy to make decisions about interventions and in team-based hospitals they are pressured by the system to intervene in the normal physiologic process of labor and birth. It is important to note that women appear to lack participation in decision making in all public hospital maternity units, no matter which provider is in charge of making decisions regarding labor and birth.

Another important barrier to low-intervention birth is a culture of distrust of natural and low-intervention birth by providers. The distrust in the natural physiologic process of labor has led to increased interventions in order to prepare for possible complications. This study found that midwives who feel uncertainty around natural birth tend to intervene due to fear of complications, proving distrust in a woman's body and her ability to have a safe delivery free of medical interventions. Kennedy suggests that in the United States, "our culture has situated childbirth fully in risk and normalized childbirth interventions."[56] She also notes that huge amounts of resources are dedicated

to preventing rare complications in birth instead of supporting more women to utilize resources to sustain and improve their health.

Similar issues are relevant in the Paraguayan birth culture. In discussions of normal birth, providers often referred to medical management of labor through induction and augmentation, implying that many providers regard medical interventions as a normal part of labor and birth. The overuse of unnecessary interventions is financially irresponsible and unsustainable. An Australian study found that the cost of birth increased by up to 50% for low-risk nulliparous women and up to 36% for low-risk multiparous woman as labor interventions accumulated.[57] Low-risk nulliparous women whose labor was induced or augmented created an 11% increase in cost, and the sharpest cost increase was related to the use of epidurals.[57] Additionally, a study in Argentina found that implementation of a restrictive episiotomy policy is more effective and less costly than a routine episiotomy policy.[58] The misuse of resources is an important public health issue for the Ministry of Health to consider. Women, and the overall health system, would be better served with low-intervention birth and the provision of labor support.

The role of the midwife is fractured and the overlapping roles between midwives and physicians are confused. Physicians outnumber midwives and nurses by nearly 2 to 1.[33,34] According to findings from this study, the surplus of physicians has created an environment in Greater Asunción where physicians are being hired in the place of midwives. Midwives also reported programs where there are more physicians working in the maternity unit than midwives, sometimes performing essential midwifery roles such as attending low-risk vaginal deliveries. It was also found that physicians provide the

majority of prenatal care in Greater Asunción. All of the above scenarios would seemingly increase the cost of providing maternity care to low-risk women. Research has found that midwifery care can provide cost savings when compared to standard care in the antenatal period[59-61] and during labor and delivery[60,62] and obtain at least the same[61] or better maternal and neonatal outcomes.[62] Midwives have the opportunity to champion natural birth and become a financial asset for the Ministry of Health by providing low-intervention, cost-saving care. By promoting low-intervention birth with humanized care, midwives will be improving the birth experiences and outcomes for women and their babies as well as providing women with choices regarding interventions in labor and delivery.

The significant contrast in perspectives of humanized birth between students and providers is important to note. Current midwifery students from the Universidad Nacional de Asunción have a more holistic vision of care for labor and birth in the hospital setting. Students were able to identify challenges within institutional settings such as women's lack of privacy, lack of explanations of procedures or choices regarding their care, and lack of accompaniment during labor and delivery. In 2010 a new curriculum for training of midwives at the Universidad Nacional de Asunción was approved.[63] The university was assisted by a representative from the University of Chile, School of Midwifery, which has been appointed a Collaborative Center for WHO for developing the Midwifery Model in Latin-American and Caribbean countries.[63] It would be important to research the impact of the new curriculum on students' perspectives of birth and how it translates into practice as they become full providers of care.

Recommendations

The problem of medicalized birth in Paraguay is multidimensional. A number of interventions and policy recommendations will be outlined to improve maternity care for women who deliver in public hospitals.

Training providers in evidence based practice for low-intervention care

It is interesting that certain evidence-based practices have been put into practice and other aspects have not. For example, episiotomies are still used in a nearly routine manner in some institutions, yet, in some of the same institutions providers delay cord clamping, which has been shown to improve iron status in infants for up to 6 months after birth.[64] The use of outdated procedures may be due to lack of available evidence based medicine information for providers or to previous outdated training. According to one prominent Paraguayan obstetrician, many medical schools in Latin America continue to train physicians with out-of-date practices and evidence.[*] There is a need to retrain providers with the most recent evidence based practice recommendations in order to transition into practicing obstetrics with the use of fewer interventions. Physicians and midwives should be involved in training sessions. In order to be more successful, it is essential to provide this educational intervention to both groups of providers. Midwives are the main provider group responsible for vaginal deliveries but physicians have the ultimate authority in the maternity unit. If physicians are unaware of the evidence, they are less likely to allow midwives to provide low-intervention care. A piece of the intervention would be to incorporate discussion on how evidence based practice could successfully be integrated into Paraguayan maternity units. In addition, to keep providers up to date with evidence-based practice the Ministry of Health should consider

[*] Personal communication with physician, July 2011

implementing continuing education requirements. At the time of this study, midwives were not required to fulfill any type of continuing education after graduation.*

Midwifery model of care

As discussed in the literature review, the midwifery model of care is based on the idea that pregnancy and birth are normal physiologic life events and should be woman-centered. According to Hatem et al., this model of care includes:

- Continuity of care
- Monitoring the physical, psychological, spiritual and social well-being of the woman and family through the cycle of childbearing
- Providing women with individualized education, counseling, antenatal care
- Continuous attendance during labor, birth and the immediate postpartum period
- Ongoing support during the postnatal period
- Minimized technological intervention
- Identifying and referring women who require obstetric and other specialized attention[8]

In China, another highly medicalized system, Cheung et al. studied the first midwife-led normal birth unit in the country, which was developed in response to high cesarean section rates.[65] Cheung et al. found that the vaginal birth rate was 87.6% in the midwife-led unit compared to 58.8% in the standard care unit. Women were supported by a midwife and a birth companion and found that the midwife-led unit provides an environment where midwives can practice to the full extent of their role.[65] Researchers found that this model has the potential to decrease obstetric interventions and increase women's satisfaction with care in a highly medicalized environment.

A program with a midwife-led model of care should be piloted at a public hospital in Asunción. A team of midwives would provide prenatal care and education as well as attention during labor and delivery. Continuity of care would be promoted throughout the pregnancy and into the postpartum period. This team of midwives would only care

* Personal communication with various Paraguayan midwives, June-July 2011

for low-risk women and would refer high-risk women to a physician who works with the midwifery team. To promote increased support in labor a doula program would be established. A doula is an experienced professional who provides "continuous physical, emotional and informational support to the mother before, during and just after birth."[66] Doulas have been found to improve prenatal expectations about childbirth, shorten the length of labor, lower cesarean section rates and increase the positive experiences of women in labor when compared to a control group.[67-69] Women would also have the option of having a support person with them in the labor room. Their chosen support person would attend prenatal care visits and education classes to provide them with techniques to support the woman during labor and delivery. High-risk women would also have the opportunity to attend educational preparation courses and have access to doula support during labor and birth. To protect privacy and allow for more laboring women, the labor room would be redesigned. For a minimal financial cost, beds could be replaced with twice as many chairs and birthing balls. One bed with a curtain would remain in the room where women's privacy could be protected for cervical exams and other procedures. With the midwifery model of care, the woman and her support person would be active participants throughout her pregnancy, labor, and delivery.

During this pilot program data should be gathered on intervention rates during labor and birth including oxytocin, amniotomies, and episiotomies, rates of cesarean sections, breastfeeding initiation and continuation through 6 months postpartum, women's satisfaction with prenatal care, labor and birth, and midwives' satisfaction in their job. A cost benefit analysis should also take place. A full monitoring and evaluation plan should be developed prior to implementation of the program.

Development of prenatal education materials for all pregnant women

According to evidence from this study, a major barrier to low-intervention birth is a lack of prenatal care education and preparation for vaginal labor and birth. It appears that some prenatal care providers are unable to prepare women for an upcoming vaginal delivery due to a high volume of patients and limited available time. Other providers neglect to prepare women for birth and schedule them for unwarranted cesarean sections. The development of educational materials for all women in prenatal care will help prepare them for their upcoming deliveries and provide them with the advantages, disadvantages, and relevant evidence for interventions used in labor and birth. The information should be written at an appropriate literacy level and packets should be made available in Spanish and Guaraní. The packet will guide women through prenatal care and prepare them for things to expect when they arrive at the hospital. It would provide women with information about nutrition, where to go if there are complications during the pregnancy, alarm signs during pregnancy, and alarm signs for the newborn. In the National Reproductive Health Survey from 2008, 78% of women reported receiving nutritional education during prenatal care, 70.5% received information about where to go for complications, 63% received information regarding alarm sign and symptoms in pregnancy, and 53% reported receiving formation regarding danger signs for the newborn.[4] Information provided should suggest and encourage women to ask questions about their care and to be more of a participant in the decision-making process. The materials will also have a section to assist her in making a birth plan. This will encourage women and their partners or other support people to discuss labor and delivery and help them make a plan for the approaching experience. The plan should be given to the

midwife on arrival to the maternity unit. Creation of birth plans will also be implemented in the midwifery-led pilot program.

Policy recommendations

In order for midwives to be able to fulfill their roles and promote low-intervention birth, multiple policy recommendations should be considered. First, In June of 2011, members from the Asociación de Obstetras del Paraguay (AOP), the national midwifery association, presented the Midwifery Bill to the Senate of the Ministry of Health. This document was assembled by multiple leading midwives in the country, reviewed, and approved by the majority of midwives in Paraguay, according to then President of the AOP, Francisca Medina. The law defines the functions of the midwife by levels of care, acceptable working hours, compensation scales, laws regarding retirement, as well as ethical issues in the field. It is currently in the Senate in the Commission of Gender and Equity and has to be approved and enacted into law. As of February 22, 2012, the leading midwives who proposed the law reported that they have been unable to obtain a meeting with the Minister of Health.[*] Passing the law would represent a positive step forward in regulating the roles, responsibilities, and rights of midwives.

Secondly, an accreditation process for universities should be developed with priority in accrediting health programs. Accreditation is necessary to ensure quality education and adherence to academic standards in order to provide the best training to midwives, physicians, and nurses. Accreditation of midwifery programs is essential to their role; if they are poorly trained and seen as dangerous to their patients, as some physicians in this study suggested, physicians will feel that it is necessary to limit their role in maternity units.

[*] Personal communication with Goiriz, N., February 2012

Next, additional funding should be allocated to the training of midwives. Midwives can be trained faster and for less money than physicians. If additional providers are needed in rural areas of the country, the Ministry of Education should consider expanding programs to these areas so that midwives can be trained in their local communities and will be more likely to stay in their local communities where they are most needed.

Limitations and need for further research

This study was limited to hospitals, midwives, and physicians in Greater Asunción, and 3 hospitals in the interior. A more comprehensive study is needed to understand the role of midwives and low intervention birth throughout the interior of the country, including the Chaco, where physician presence is considerably lower. A more comprehensive study would also research midwifery students and programs at other universities throughout the country.

Further research is needed in the areas of prenatal education and care in the public sector. The perceptions of prenatal care providers and their view on scheduled cesarean sections and prenatal education is unknown. Unfortunately, this was outside of the scope of this study. Women's perceptions of midwifery care should be assessed. Although this could be difficult to assess due to lack of identification between various health care providers, it is important to know if women are more satisfied with care given by different types of providers. Additionally, there is a need for research focused on the differences in care for women in the public and private hospitals. The current research only includes practices in public hospitals, since midwives typically work as nurses in private hospitals. Multiple participants noted that if women have the means they are able

to pay for a requested cesarean section in a private hospital and are allowed to be accompanied by a support person for the labor and birth. Inequity exists throughout Paraguay, unfortunately, and maternity units are no different. It seems unjust that poor women must labor and deliver alone while women with means can have a support person, and can make requests regarding the preferred mode of delivery. There is a need to research differences in care provided as well as maternal/newborn outcomes in public and private hospitals.

References

1. *ICM International Definition of the Midwife*: International Confederation of Midwives;2011.
2. Rooks J. The midwifery model of care. *Journal of Nurse-Midwifery.* 1999;44(4):370-374.
3. Odberg Pettersson K, Stone K. *Profiling midwifery services in the Americas: Models of childbirth care*: Pan American Health Organization;2005.
4. Centro Paraguayo de Estudios de P. *Encuesta Nacional de Demografía y Salud Sexual y Reproductiva*: Centro Paraguayo de Estudios de Población;2008.
5. Appropriate technology for birth. *Lancet.* 1985;2(8452):436-437.
6. Althabe F, Belizán J, Bergel E. Episiotomy rates in primiparous women in Latin America: hospital based descriptive study. *BMJ.* 2002;324(7343):945-946.
7. WHO | The World Health Report 2005 - make every mother and child count. http://www.who.int.proxy.library.emory.edu/whr/2005/en/index.html.
8. Hatem M, Sandall J, Devane D, Soltani H, Gates S. Midwife-led versus other models of care for childbearing women. In: The Cochrane C, Sandall J, eds. *Cochrane Database of Systematic Reviews*. Chichester, UK: John Wiley & Sons, Ltd; 2008.
9. Janssen PA, Ryan EM, Etches DJ, Klein MC, Reime B. Outcomes of planned hospital birth attended by midwives compared with physicians in British Columbia. *Birth (Berkeley, Calif.).* 2007;34(2):140-147.
10. Bodner-Adler B, Bodner K, Kimberger O, Lozanov P, Husslein P, Mayerhofer K. Influence of the birth attendant on maternal and neonatal outcomes during normal vaginal delivery: a comparison between midwife and physician management. *Wiener Klinische Wochenschrift.* 2004;116(11-12):379-384.
11. Kettle C, Hills RK, Ismail KMK. Continuous versus interrupted sutures for repair of episiotomy or second degree tears. *The Cochrane Library*: John Wiley & Sons, Ltd.
12. Varney H, Kriebs J, Gegor C. *Varney's midwifery*. 4 ed: Jones and Bartlett Publishers; 2004.
13. DynaMed: Oxytocin. http://web.ebscohost.com.proxy.library.emory.edu/dynamed/detail?vid=4&hid=18&sid=718da864-6720-445e-8ecc-0d6ac1adc51b%40sessionmgr4&bdata=JnNpdGU9ZHluYW1lZC1saXZlJnNjb3BlPXNpdGU%3d#db=dme&AN=233245.
14. Labor induction - MayoClinic.com. http://www.mayoclinic.com/health/labor-induction/MY00642.
15. Murray S, McKinney E. *Foundations of Maternal-Newborn Nursing*: Saunders Elsevier; 2006.
16. Kriebs J, Gegor C. *Varney's Pocket Midwife*. Boston: Jones and Bartlett Publishers; 2005.
17. Rooks J. Relationships Between CNMs and CMs and Other Midwives, Nurses, and Physicians. *Professional Issues in Midwifery*: Jones and Bartlett Publishers; 2007:1-40.

18. *The State of the World's Midwifery 2011, Midwifery in South America*: UNFPA;2011.

19. UNFPA - Bolivia: Training Midwives to Treat Indigenous Mothers with Respect. 2009; http://www.unfpa.org/public/News/pid/2614.

20. *Health situation in the Americas: Health Indicators 2011*: Pan American Health Organization;2011.

21. Bonilla E. [Scholarship report. Midwife in Chile]. *Jordemodern.* 1990;103(1-2):24-27.

22. Betrán AP, Merialdi M, Lauer JA, et al. Rates of caesarean section: analysis of global, regional and national estimates. *Paediatric and Perinatal Epidemiology.* 2007;21(2):98-113.

23. Gibbons L, Belizán J, Lauer J, Betrán A, Merialdi M, Althabe F. The global numbers and costs of additionally needed and unnecessary caesarean sections performed per year: overuse as a barrier to universal coverage: World health report; 2010.

24. Centro Paraguayo de Estudios de Población (CEPEP). *Paraguay - Encuesta Nacional de Demografía y Salud Sexual y Reproductiva 2004*.

25. *Reporte de Partos 2010*: Ministerio de Salud Publica y Bienestar Social, Paraguay;2011.

26. Souza JP, Gülmezoglu AM, Lumbiganon P, et al. Caesarean section without medical indications is associated with an increwsed risk of adverse short-term maternal outcomes: the 2004-2008 WHO Global Survey on Maternal and Perinatal Health. *BMC Medicine.* 2010;8(71).

27. *Indicador de Mortalidad 2009*: Ministerio de Salud Publica y Bienestar Social, Paraguay;2010.

28. Goldenberg T. *Cesarean Sections and the Medicalization of Birth in Gran Asunción, Paraguay*. Atlanta, GA, Emory University; 2011.

29. WHO Antenatal Care Randomized Trial: Manual for the Implementation of the New Model: World health report; 2002.

30. CIA - The World Factbook. https://www.cia.gov/library/publications/the-world-factbook/geos/pa.html.

31. Peña R, Echeverri J. *Health Systems Profile: Paraguay*: Pan American Health Organization;2008.

32. Department Of State. The Office of Electronic Information, Bureau of Public Affairs. Paraguay. 2012; http://www.state.gov/r/pa/ei/bgn/1841.htm.

33. Gulino R. *Metas regionales en materia de recursos humanos para la salud (2007 – 2015), paraguay*2009.

34. Country Profiles: Paraguay. 2004; http://www.paho.org/english/dd/ais/be_v25n2-perfil-paraguay.htm.

35. *Nomina de Datos Referente a Recursos Humanos del Ministerio de Salud Pública y Bienestar Social*: Ministerio de Salud Pública y Bienestar Social;2011.

36. Cindoglu D, Sayan-Cengiz F. Medicalization discourse and modernity: contested meanings over childbirth in contemporary Turkey. *Health Care for Women International.* 2010;31(2):221-243.

37. Diniz SG, Chacham AS. "The Cut Above" and "the Cut Below": The Abuse of Caesareans and Episiotomy in São Paulo, Brazil. *Reproductive Health Matters.* 2004;12(23):100-110.

38. Taljaard M, Donner A, Villar J, et al. Understanding the factors associated with differences in caesarean section rates at hospital level: the case of Latin America. *Paediatric and Perinatal Epidemiology.* 2009;23:574-581.

39. Carroli G, Mignini L. Episiotomy for vaginal birth. *Cochrane Database of Systematic Reviews.* 2009(1).

40. Ho JJ, Pattanittum P, Japaraj RP, Turner T, Swadpanich U, Crowther CA. Influence of training in the use and generation of evidence on episiotomy practice and perineal trauma. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics.* 2010;111(1):13-18.

41. Cunningham F, Leveno K, Bloom S, Hauth J, Rouse D, Spong C, eds. *Williams Obstetrics.* 23 ed: McGraw Hill Medical; 2010.

42. Angioli R, Gomez-Marin O, Cantuaria G. Severe perineal lacerations during vaginal delivery. *American Journal of Obstetrics and Gynecology.* 2000;182(1083).

43. Eason E, Labrecque M, Wells G. Preventing perineal trauma during childbirth: A systematic review. *Obstet Gynecol.* 2000;95(464).

44. Nager CW, Helliwell JP. Episiotomy increases perineal laceration length in primiparous women. *American Journal of Obstetrics and Gynecology.* 2001;185(444).

45. Rodriguez A, Arenas EA, Osorio AL. Selective vs routine midline episiotomy for the prevention of third- or fourth-degree lacerations in nulliparous women. *American Journal of Obstetrics and Gynecology.* 2008;198(285).

46. Frankman EA, Wang L, Bunker CH, Lowder JL. Episiotomy in the United States: has anything changed? *American Journal of Obstetrics and Gynecology.* 2009;200(5):573.e571-577.

47. Basevi V, Lavender T. Routine perineal shaving on admission in labour. *Cochrane Database of Systematic Reviews.* 2009(4).

48. Lawrence A, Lewis L, Hofmeyr GJ, Dowswell T, Styles C. Maternal positions and mobility during first stage labour. 2009.

49. Gupta JK, Hofmeyr GJ, Smyth RMD. Position in the second stage of labour for women without epidural anaesthesia. 2009.

50. Huang XH, Xiang XY, Shen RG, et al. [Study on intrapartum service model during normal labor]. *Zhonghua Fu Chan Ke Za Zhi.* 2003;38(7):385-387.

51. Behruzi R, Hatem M, Fraser W, Goulet L, Masako I, Misago C. Facilitators and barriers in the humanization of childbirth practice in Japan. *BMC Pregnancy and Childbirth.* 2010;10(25).

52. de Souza TG, Gaíva MA, Modes PS. [The humanization of birth: how health professionals working in delivery care perceive it]. *Rev Gaucha Enferm.* 2011;32(2):479-486.

53. Belizán J, Althabe F, Barros F, Alexander S. Rates and implications of caesarean sections in Latin America: ecological study. *BMJ.* 1999;319:1397-1402.

54. Binfa L. The midwifery model in Chile: An implementation assessment2011.

55. Fernández A, Caballero j. Listado solicitado por la dirección de enfermería2009.

56. Kennedy HP. The problem of normal birth. *Journal of Midwifery & Women's Health.* 2010;55(3):199-201.

57. Tracy SK, Tracy MB. Costing the cascade: estimating the cost of increased obstetric intervention in childbirth using population data, Costing the cascade: estimating the cost of increased obstetric intervention in childbirth using population data. *BJOG: An International Journal of Obstetrics & Gynaecology, BJOG: An International Journal of Obstetrics & Gynaecology.* 2003;110, 110(8, 8):717-724.

58. Borghi J, Fox-Rushby J, Bergel E, Abalos E, Hutton G, Carroli G. The cost-effectiveness of routine versus restrictive episiotomy in Argentina. *American Journal of Obstetrics and Gynecology.* 2002;186(2):221-228.

59. Giles W, Collins J, Ong F, MacDonald R. Antenatal care of low risk obstetric patients by midwives. A randomised controlled trial. *The Medical Journal of Australia.* 1992;157(3):158-161.

60. Homer CS, Matha DV, Jordan LG, Wills J, Davis GK. Community-based continuity of midwifery care versus standard hospital care: a cost analysis. *Australian Health Review: A Publication of the Australian Hospital Association.* 2001;24(1):85-93.

61. Ratcliffe J, Ryan M, Tucker J. The costs of alternative types of routine antenatal care for low-risk women: shared care vs care by general practitioners and community midwives. *Journal of Health Services Research & Policy.* 1996;1(3):135-140.

62. Rowley MJ, Hensley MJ, Brinsmead MW, Wlodarczyk JH. Continuity of care by a midwife team versus routine care during pregnancy and birth: a randomised trial. *The Medical Journal of Australia.* 1995;163(6):289-293.

63. University of Chile, School of Midwifery, Collaborative Center for WHO for developing the Midwifery Model in the Latin-American and the Caribbean countries, background and plan2010.

64. McDonald SJ, Middleton P. Effect of timing of umbilical cord clamping of term infants on maternal and neonatal outcomes. *The Cochrane Library*: John Wiley & Sons, Ltd.

65. Cheung N, Mander R, Wang X, Fu W, Zhou H, Zhang L. Clinical outcomes of the first midwife-led normal birth unit in China: a retrospective cohort study. *Midwifery.* 2011;27(5):582-587.

66. DONA International – What is a doula? http://www.dona.org/mothers/.

67. Campbell D, Scott KD, Klaus MH, Falk M. Female Relatives or Friends Trained as Labor Doulas: Outcomes at 6 to 8 Weeks Postpartum. *Birth.* 2007;34(3):220-227.

68. Campero L, Garcia C, Diaz C, Ortiz O, Reynoso S, Langer A. "Alone, I wouldn't have known what to do": a qualitative study on social support during labor and delivery in mexico. *Social Sciences and Medicine.* 1998;47(3):395-403.

69. McGrath SK, Kennell JH. A Randomized Controlled Trial of Continuous Labor Support for Middle-Class Couples: Effect on Cesarean Delivery Rates. *Birth.* 2008;35(2):92-97.

Appendix A: Focus Group Discussion Guide – Midwives

1. Please, introduce yourself, where you work as a midwife, and share what you wanted to be when you were a child.
2. Why did you decided to become a midwife?
    a. What do you like/dislike about the profession?
    b. Do you feel respected?
    c. Is there anything you would like to change about midwifery in Paraguay?
3. Explain to me what it is like to be a midwife in Paraguay
    a. Hours
    b. Responsibilities
    c. What the maternity unit is like
    d. Working in a health care team
4. Role play
    a. Set up a role play activity for the group so that they can act out a typical day in the maternity unit
    b. Roles: midwife, physician, nurse, resident (if appropriate), laboring woman
    c. After exercise, walk through what was acted out
5. What are the standard protocols for birth in your hospital?
    a. How do you make decisions about interventions
        i. Oxytocin, rupture of membranes, episiotomy
        ii. Cesarean sections
    b. How does decision making happen in the maternity unit?
        i. Between physicians and midwives
        ii. Physicians and nurses
        iii. Nurses and midwives
    c. How do you feel about decision making in the maternity unit?

i. Would you like to be making more decisions?

ii. Do you feel your decisions are supported by physicians?

6. How do you work with women during labor and birth?

    a. Views on natural birth

    b. Low-intervention birth

7. What are some of the major challenges in promoting natural birth and low-intervention care?

    a. How are midwives promoting natural/low-intervention birth?

    b. Challenges

    c. Facilitators

    d. Need for changes

    e. Support from physicians

8. As midwives, what would be the most important thing to change in the hospital system/health system to support more natural/low-intervention birth?

Appendix B: Focus Group Discussion Guide – Midwifery Students

1. Introduce yourself, where you are from and what you wanted to be when you were a child
2. Why did you decide to become a midwife?
    a. What do you like/dislike about the profession
    b. What has surprised you about the profession
3. What is it like to be a midwifery student?
    a. Coursework
    b. Clinical work
    c. Support from professors/university
    d. Experience in the hospital
4. What do you think about natural birth/low-intervention birth?
    a. Are you being trained to provide humanized care?
    b. What type of training/clinical experience
    c. Are the things being taught in the classroom applicable to the hospital setting
5. Role play
    a. Set up a role play activity for the group so that they can act out a typical day in the maternity unit
    b. Roles: midwife, physician, nurse, laboring woman, student
    c. After exercise, walk through what was acted out
6. What do you think about the involvement of midwives in the care of laboring women in the maternity unit?

    a. Care of women
    b. Role/responsibilities of the midwife

7. What are some of the major challenges of providing comprehensive care to women in order to reduce obstetric interventions?
    a. How is natrual/low-intervention birth promoted
    b. How could it be promoted more
8. As midwifery students, what would you change in the profession in order to provide more low-intervention care?
9. Anything else you would like to add

Appendix C: In-depth Interview Guide – Midwives

1. How long have you been a midwife?
2. Why did you decide to become a midwife?
    a. What do you like/dislike about the profession?
    b. What would you like to change about midwifery?
    c. Respect/status of midwifery
3. Explain to me what it is like to be a midwife in Paraguay
    a. Prenatal care
    b. Postpartum care
    c. How do you work with women in labor?
    d. Responsibilities
4. Explain to me what you do in the maternity unit
    a. Health care team
    b. Working with physicians
    c. Working with nurses
5. How do you make decisions in the maternity unit?
    a. Interventions
        i. Oxytocin
        ii. Rupture of membranes
        iii. Episiotomies
    b. Cesarean sections
    c. Making decisions with physicians
    d. Level of autonomy

6. What do you think about natural/low-intervention birth?
    a. Challenges/barriers
    b. Facilitators
    c. What needs to change to provide natural/low-intervention care?
    d. Support from physicians
7. Are midwives promoting natural/low-intervention birth?
    a. What could midwives do to promote it
    b. What needs to change so that midwives can promote natural/low-intervention care?
8. Anything else you would like to add

Appendix D: In-Depth Interview Guide – Physicians

1. How long have you been an OB/Gyn?
2. Why did you decide to become an OB/Gyn?
    a. What do you like about the work?
    b. What don't you like about the work?
3. Tell me about your work here in this hospital
    a. Your responsibilities
    b. Who is considered to be in the health care team
    c. How do you work as a team
4. What is the role of the midwife in this maternity unit?
    a. Responsibilities
    b. Strengths/weaknesses of midwives
    c. How do they work with women in labor?
    d. How do they make decisions about interventions?
        i. Oxytocin, rupture of membranes, episiotomies, cesareans
        ii. What decisions can they make on their own?
        iii. When do they need to consult with the physicians?
        iv. What decisions are they not allowed to make?
5. Tell me about natural/low-intervention birth here
    a. How do you feel about it?
    b. Are midwives promoting it?
    c. What can they do to promote it?
6. Anything else you would like to add?

Appendix E: Codes and Code Definitions

Name of Code	Code Definition
Barriers/Facilitators	Discussions around barriers/facilitators to normal birth. Includes barriers/facilitators of vaginal births, normal, or natural birth. Includes things such as lack of resources (financial, physical, and human) or infrastructure, lack of childbirth education classes, good prenatal care that prepares women for birth. Can include ideas of what midwives can do to promote normal birth but should not replace it.
Role	Discussions around the role of midwives in the health care system. Discussion around their responsibilities, how they work with women during labor and delivery, how they work with the health care team, scope of practice, and autonomy. This code may overlap with decision-making but does not take the place of decision-making.
Perceptions	Participants' views of normal birth. This includes discussions around low-intervention birth, humanized birth, vaginal birth and normal birth. Includes opinions of these types of birth as well as opinions regarding the need of medicalization of birth. This code may overlap with barriers/facilitators but does not replace it.
Promotion	Discussions around the promotion of natural and normal birth, or reasons why natural and normal birth is not being promoted in Paraguay. Discussions around how midwives are currently promoting low-intervention birth. Ideas about how midwives can promote natural, normal, and low-intervention birth in the system or how the system needs to change to promote these things. Can include facilitators of natural birth but shouldn't replace Barriers/Facilitators.
Decision Making	Discussion related to how midwives and physicians make decisions around labor and birth. This includes decisions around interventions (using oxytocin, cutting an episiotomy), decisions around cesarean sections, and general management of the woman in labor. Also includes things that influence decision-making and lack of decision-making. Includes

	discussion of physicians confidence in midwives to make decisions and manage birth.
Health care team	Discussion about how the team works together to take care of women in the maternity unit. Discussions around which provider are included in the team. Relationships between people on the team. Excludes discussions around lager issues between professional groups (professional conflict). Can include issues around decision making but does not replace it.
Professional conflict	Includes all references related to midwives, nurses, or physicians professional issues, including rivalry between groups, difficulty finding work due to certain groups, midwives unable to do deliveries due to more residents in the hospital or programs such as KOIKA, conflict between nurses and midwives. Can also include personal conflict between midwives and other professionals. May overlap with Career but does not replace it.
Career	Includes lack of work for midwives because they feel the career is vanishing. Any references to midwives losing their space/place. Discussions around how the profession of midwifery is changing in Paraguay. Includes view of the career, likes and dislikes regarding the profession, and things about the profession they would like to change. Includes discussions around KOICA program and residency programs that are taking over midwifery roles. Includes mention of the *Midwifery Bill*. May overlap with Professional Conflict but does not replace it.
Interior	Discussions around differences in midwives in the interior of the country. Can include differences in roles, resources, autonomy, and normal birth. Also includes differences in patients in the interior or care provided to women in the interior. Can overlap with role of the midwife but does not take the place of role it.
Midwife training	All references to education of midwives including issues around private universities and decreased quality of training. Discussions around how midwives are currently trained or ideas about how to improve training.

Decision to become a midwife	All references to why and how they decided to become midwives, people or events that have influenced their decision to become a midwife. Also includes students' decisions to study midwifery.
Status	Discussions around the status of midwives in Paraguay. Changes in the status of midwives in recent years. Perceptions of respect from the community, patients, and other health care providers in the hospital. Includes discussions around feeling respected/disrespected. Can include status of midwives in the interior but does not replace interior.
Leadership	Discussion around midwifery leadership in the country. What are their perceptions of their leaders, are they involved in the promotion of the profession, are they supported by their leaders, issues around leadership (unable to leave work to protest for their rights, they are a silent group), lack of leadership in the Ministry of Health. This code may overlap with system support but does not take the place of it.
System support	All references to the system, which includes the system of their hospital or the Ministry of Health. Discussions around how they do or don't feel supported by the system or what needs to change in order to be supported.
Physicians' view of the midwife (Physician code)	Includes all physicians' discussions of their views of midwives and midwifery care. Views of how they see midwives working with women in the maternity unit. Can overlap with role of the midwife but does not replace it.
Decision to become physician (Physician code)	All references to why they chose to become an OB/GYN and what in particular they like about their profession.
Differences in practice between physicians and midwives (Student code)	References to differences in how physicians and midwives practice in the maternity unit. Includes discussions around fundamental differences in the two types of providers, in how they treat women in pregnancy and birth, their views of interventions and providing support to women in labor. Only include explicit references to how they compare and contrast not

	broader views.
Treatment of women (Student code)	Discussions around treatment of women during prenatal care, and labor and delivery by providers (midwives or physicians). Includes mistreatment of women by providers. Also includes discussions around women's privacy, respect of women, and care of women (explaining procedures, providing choices) in maternity units.