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Assessment of the implementation of the model of integrated and humanised midwifery health services in Chile

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ABSTRACT

Objective: in 2010, a pilot study was conducted among women who were attended by midwives in the public sector in Santiago, Chile. The purpose of that study was to evaluate the implementation of the 'Model of Integrated and Humanized Health Services', and the Clinical Guide for Humanized Attention during Labour and Childbirth. Results of that study indicated 92.7% of women had medically augmented labours (artificial rupture of the membranes, oxytocin and epidural analgesia). One third of the women reported discontent with the care they received. This study replicated the pilot study (2010) and was conducted in seven regional hospitals across Chile. The objectives were to : (i) describe selected obstetric and neonatal outcomes of women who received care according to this new guide, (ii) identify the level of maternal–neonatal well-being after experiencing this modality of attention, and (iii) explore professionals' perceptions (obstetricians and midwives), as well as consumers' perceptions of this humanised assistance during labour and childbirth.

Design: this is a cross sectional and descriptive, mixed methods study, conducted in two phases. The first phase was quantitative, measuring midwifery processes of care and maternal perceptions of well-being in labour and childbirth. The second phase was qualitative, exploring the perceptions of women, midwives and obstetricians regarding the discrepancy between the national guidelines and actual practice.

Setting: maternity units from seven regional hospitals from the northern, central and southern regions and two metropolitan hospitals across Chile.

Participants: 1882 parturient women in the quantitative phase (including the two Metropolitan hospitals published previously). Twenty-six focus groups discussions (FGD) participated from the regional and metropolitan hospitals for the qualitative phase.

Measurements/Findings: all women started labour spontaneously; 74% of women had spontaneous vaginal childbirth. Caesarean section was the outcome for 20%, and 6% had childbirth assisted with forceps. A high number of medical interventions continued to be performed in all regions, deviating widely from adherence to the national clinical guidelines. Most of the women did not receive any oral hydration, almost all received intravenous hydration; most were under continuous foetal monitoring and medically augmented labour. The majority of women received artificial rupture of membranes, epidural anaesthesia and episiotomy. Most delivered in the lithotomy position. Two thirds of women surveyed perceived adequate well-being in labour and childbirth. Findings from focus group discussions of women (FGD=9; n=27 women), midwives (FGD=9; n=40) and doctors (FGD=8; n=29) indicated lack of infrastructure for family participation in birth, inadequate training and orientation to the national guidelines for practice, and lack of childbirth preparation among women. Some women reported mistreatment by personnel. Some midwives reported lack of autonomy to manage birth physiologically.

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Key conclusions: birth is managed by midwives across the public sector in Chile. Despite evidence-based guidelines published in 2007 by the Ministry of Health, birth is not managed according to the guidelines in most cases. Women feel that care is adequate, although some women report mistreatment.
Implications for practice: efforts to provide midwife-led care and include women in participatory models of antenatal care are recommended to promote women-centred care in accordance with the Chilean national guidelines.

Introduction

Chile is recognised among Latin American countries for its improvement in maternal and neonatal indicators (PAHO, 2006, 2008, 2011; WHO, 2014). Over 99% of births take place in hospitals, but Chile has one of the highest rates of caesarean section of the region (Gibbons et al., 2012). The caesarean rate has been increasing in the last few years, from 34.7% of all births during 2000, up to 40.5% in 2013 (CMPH, 2013). Also, an overutilization of obstetrical interventions has been reported in Chile (Binfa et al., 2013), based on the WHO assessment that caesarean rates over 10% are not associated with decreases in maternal or infant mortality (WHO, 2015). The World Health Organization considers the rate of caesarean sections and the prevalence of obstetrical interventions to be indicators of the quality of maternal and perinatal clinical care (WHO, 1985, 2015).

Midwives in Chile provide the majority of gynaecological and obstetric primary care, attending normal labour and childbirth in the public system, working in collaboration with obstetricians (Segovia, 1998). Currently, midwifery education in Chile is a five-year undergraduate academic degree programme. After a one year residency which is the fifth academic year, midwives take the responsibility for providing direct services, as well as enhancing and improving women's health and quality of life throughout their lives. Newborn health is also a core component of their professional practice.

Funding of the delivery of health services in Chile is a mixed public and private system. The public system is financed by the National Health Fund (FONASA), covering almost 75% of the population under health services. Furthermore, the public system covers health care for 100% of the poorest population, including maternal and infant health (PAHO, 2011).

The objectives stated by the Chilean Ministry of Public Health for the decade 2000–2010, and updated to 2011–2020 (CMPH, 2011), are to improve sanitary indicators, decrease health inequalities, and provide high quality services, in accordance with the expectations of the population and scientific evidence.

The scientific literature has reported the efficacy of midwifery-led care models (Stapleton et al., 2013), based on midwives' skilled competences for attending normal childbirths and taking into account women's needs or woman-centred models of care (McCourt, 2014; Tracy et al., 2014; Clark et al., 2015; Cummins et al., 2015). These practices have led to the reduction in the number of caesarean sections (Hodnett et al., 2012; Faucher, 2013).

In line with the evidence, during 2007, the Chilean Ministry of Public Health adopted the 'Model of Integrated and Humanized Health Services', and introduced the Clinical Guide for the Humanized Attention of Labour and Delivery. The main objective of this guide is to guarantee access for all pregnant women in Chile to appropriate professional assistance during labour and childbirth, in a safe, personalised, and humane manner (CMPH, 2007).

Activities to achieve the objectives of this clinical guide, include strengthening the relationship between the patient and clinician, promoting continuous emotional support, encouraging different positions that allow women free movement during the second stage of labour, offering different pain relief alternatives (pharmacological and non-pharmacological), minimising intrapartum foetal monitoring, promoting the reduction of episiotomy and labour augmentation, and promoting mother and child bonding (CMPH, 2007).

In 2010, three years after the publication of the Clinical Guidelines for the Humanized Assistance of Labour and Childbirth, our research team of university-based midwifery faculty conducted a pilot study in two big maternity hospitals belonging to the National Health System, in Santiago, the capital of Chile. Our aims were to: (i) describe selected obstetric and neonatal outcomes of women enroled in the study who received care according to this new guide, (ii) identify the level of maternal–neonatal well-being after experiencing this modality of attention, and (iii) explore professionals' perceptions (obstetricians and midwives), as well as consumers' perceptions of this humanised assistance during labour and childbirth. Findings from the 2010 study (pilot) revealed no changes with regard to the implementation of the recommendations promoted by the guidelines; 92.7% of the women had medically augmented labours (artificial rupture of the membranes and receiving oxytocin and epidural anaesthesia), and almost one-third of the women reported discontent with the care they received (Binfa et al., 2013).

These results moved us to our current research question: would the results from the Santiago study be similar across the Chilean nation? Although past government administrations have made strong efforts toward decentralisation, most of the resources and population of the country remain concentrated in the capital of Santiago.

This led us to further question if the cultural, ethnic, climatic and/or geographical differences among seven regions of Chile would result in different service outcomes for midwifery care. Also, are there midwifery strengths in other locations outside of Santiago that could be shared to improve the implementation of this guide and model of care across Chile? The present study, therefore, replicated the same purpose and objectives of the 2010 pilot study carried-out in Santiago (Binfa et al., 2013), but it was conducted in seven regional hospitals of the fifteen regions of the country. Funding and time limitations precluded a study of all fifteen regions but we sought geographic representation by involving two of the hospitals in the north (Iquique y Coquimbo), two in the central zone (Rancagua y Valparaíso) and three in the southern part of the country (Concepción, Ancud and Coihayque). The funding for this study was granted by the Chilean National Fund for Health Research (FONIS-SA12I2079).

Material and methods

Ethical approval

Ethical approval to conduct the study was obtained from the Ethical Committee for Research on Human Beings at the Faculty of Medicine, University of Chile and the local Ethical Committee at

each hospital maternity unit participating in the study. Participants were assured that data were confidential and all participants signed an informed consent form before enrolment in the study (WMA, 2004).

Research approach

A mixed methods approach was used to carry out this descriptive and cross-sectional study, which was conducted with 1882 women who delivered at nine major regional hospitals (we included the data from the two maternity hospitals that had participated in the previously published pilot study (Binfa et al., 2013)) within the National Health System in the north, central, metropolitan and southern areas, in Chile, from May to December, 2013. A mixed methods design was chosen because we felt that qualitative information would provide a more nuanced and explanatory understanding of our quantitative assessments of the process of care and the women's report on their well-being during labour and childbirth (Creswell and Plano-Clark, 2007).

The quantitative approach was used during the first phase of the study to assess the following: (i) to describe selected clinical outcomes of the women enroled receiving care according to the 2007 clinical guide; and (ii) to identify the level of maternal–neonatal well-being after experiencing this modality of assistance. Inclusion criteria were primiparous and multiparous women who were admitted to the labour ward with 2–3 cm of cervical dilatation and whose physiological labour was a minimum of four hours. These criteria ensured that participating women could make a choice regarding from different options for managing the pain of labour offered by the guidelines. For multiparous women, an interconception period of less than three years was required to assure relatively recent memory of their last birth experience. Another criterion was the capacity to give and sign informed consent. Women with a clinical history of mental illness or drug abuse were excluded.

Sample size was obtained assuming an interval confidence ratio of ± 3 points with regard the mean of Maternal Well-being Scale, 95% of confidence level and 23 points of standard deviation this information was obtained in the pilot study (Binfa et al., 2013), therefore sample size was calculated in 226 women per site, this number was corrected by finite population according to the number of annual deliveries per site (see Table 1), resulting in a sample of 1374 women. To this sample, the 508 women participating in the pilot study conducted in Santiago were added, resulting in a final sample size of 1882 women. Results were reported as mean and standard deviation with their 95% confidence interval in each site. For global estimation results consider sampling weights (inverse of the probability that the observation is included because of the sampling design) for calculating mean, it is a 95% confidence interval (See Table 1).

Table 1
Sample size estimation by births per region.

Maternity	No. of annual normal births (N)	Sample size (n_0)	Corrected sample size ($n=\frac{n_0}{1+\frac{n_0}{N}}$)	Sampling weights $\frac{N}{n}$
Iquique	2332	226	207	11
Coquimbo	1634	226	199	8
Valparaíso	2369	226	207	11
Rancagua	2981	226	211	14
Concepción	3723	226	214	17
Ancud	357	226	139	2
Coyhaique	1500	226	197	8
Total sample			1374	

Quantitative data collection

All data were collected in the postpartum ward by the midwifery staff at the corresponding hospital maternity unit. Prior to data collection, the research team held a two-day training workshop carried out in Santiago, for all regional midwifery staff in charge of data collection at each regional site. They were trained about the project, the instrumentation, and the study protocol and procedures. The research team supervised all those who collected data. For objective (i), we used an adaptation of the Intrapartum Data Set, developed by the American College of Nurse-Midwives (ACNM), validated in 1991 (Greener, 1991) and published in 1999 (copyright) for educational or research purposes (ACNM, 2010). This instrument was translated into Spanish and adapted for the Chilean context by the research team and reviewed by a nurse-midwifery faculty member from the United States and co-author of this manuscript. The other quantitative instrument was the Maternal Well-Being Scale, a 42 item instrument that is measured using a Likert scale, which was created and validated in Chile (Uribe et al., 2008).

Quantitative data analysis

Continuous variables were described as means, and categorical variables as proportions, both with their respective confidence intervals (CI). We used logistic regression to compare the proportions. The region that descriptively presented the most desirable proportion (in terms of adherence to the recommendations of the Clinical Guide for the Humanised Attention of Labour and Childbirth) was used as the reference in our model. All CI and the logistic model considered the sampling weights, to assure be representative of the universe. Significance level was 5%, with 95% confidence intervals. A database was constructed using an excel file, and data were analysed by means of the statistical package STATA, version 12.0.

All sociodemographic and labour and childbirth data were obtained from the medical records and, if necessary, interviewing participants. For objective (ii), the Maternal Well-Being Assessment Scale, data were collected through a structured interview conducted with participants who met the inclusion criteria.

Qualitative data collection

The qualitative methods of focus group discussions (FGD) were used in the second phase of the study in each of the participating hospitals. Focus groups were chosen to address objective (iii), to explore the perception of this humanised assistance during labour and childbirth by professional staff (obstetricians and midwives), as well as the women using the services. For the postpartum participants, the inclusion criteria were the same as for those recruited into the quantitative phase but these women were not the same participants who were interviewed in the quantitative phase of the study, because the FGD were conducted after the quantitative phase, when the first phase participants had already been discharged from the hospital.

Women participants were recruited as volunteers (those who responded actively to the invitation) (Hernandez et al., 2010). None of those invited refused to participate. Another series of focus groups was conducted with midwifery participants, and the third series included obstetrician participants. Inclusion criteria for the professional staff were employment in the labour wards for at least three years, as well as holding supervisory positions on the units. All focus group discussions were conducted in each site respectively, separated according to midwives, obstetricians and women and facilitated by the research team, led by the first author with prior experience in conducting focus groups, and who had

facilitated the focus groups in the pilot study (Binfa et al., 2013). Only the research team and the participants were present.

In addition to the FGD, we took notes from discussions with charge midwives and doctors whenever possible. This was a way to confirm or contradict the information we were hearing in the FGD. Our purpose was to triangulate the data and improve the trustworthiness of our qualitative analysis (Sandelowski, 2000).

A discussion guide was used in each of the FGD. Groups were intended to be no larger than eight people per group, in order to allow each participant to freely express his/her experience and perception (Morgan, 1988; Umaña-Taylor, 2004). The number of participants in the groups ranged from three to eight persons. A moderator and facilitator were both members of the research team and previously trained in this technique. All FGDs were audiotape-recorded and transcribed verbatim by a professional transcriptionist.

Qualitative data analysis

The guide for focus groups included general questions for all sites, and also questions specific to each regional site, informed by the quantitative outcomes reported below. We used a content analysis approach to analysis (Graneheim and Lundman, 2004; Hsieh and Shannon, 2005). Text was coded manually by the research team without any qualitative data management software. The codes were then discussed and compared critically by the three members of the research team who were present for the groups (Lincoln and Guba, 1985). These were organised into three general themes which are reported below.

Findings

Quantitative results

At the end of data collection, we achieved a total sample size of 1729 participants. One hundred and 53 surveys were excluded because they were incomplete. Sociodemographic characteristics of participants are described in detail in Table 2.

The mean age of participants was approximately 24 years, ranging between 13 and 46 years. Thirteen per cent were married, 45% were single, and 42% were cohabiting. Only one woman reported being widowed. In terms of education completed, 13% had elementary education only; 71% reported completion secondary education. Approximately 15% of women reported some level of university education. Additionally, with regard to health insurance, approximately 97% of women reported belonging to FONASA, the National Health Fund, and 3% had another form of health insurance.

Selected clinical processes and outcomes are presented in Table 3. Results are presented for each regional hospital separately, with the two Santiago hospitals in the aggregate, to show similarities or differences among them. (Comparison of the two Santiago hospitals is published (Binfa et al., 2013).)

Table 2
Sociodemographic variables.

Sociodemographic variables	Participants $N=1729$
Age mean (SD)	24.1 (6.1)
Range of age	(13–46)
Marital status % (IC)	
Married	13.2 (11.1–15.2)
Single	45.2 (42.2–48.2)
Cohabitant	41.6 (38.6–44.6)
Level of education % (IC)	
Basic	13.8 (11.8–15.9)
Secondary	71.0 (68.3–73.7)
University (some level)	15.1 (13.0–17.2)

Overall, 74% of women had spontaneous vaginal childbirths. The rate of caesarean section was approximately 20%; the remaining proportion of women had assisted childbirths with forceps. Table 3 illustrates the adherence to the recommendations of the Clinical Guidelines for the Humanised Assistance of Labour and Childbirth. A high degree of interventions continue to be performed in all regions. The Hospital of Ancud showed the least use of interventions, specifically, only 45% of women had intravenous therapy, 26% of women had membranes artificially ruptured, and only about 4% of women had pharmacological intervention. As a whole, though, the hospitals deviate widely from adherence to the national clinical guideline recommendations. Most of the women in our study did not receive any oral hydration, almost all received intravenous hydration, most of them were under continuous foetal monitoring and medically induced labour. The majority of women received artificial rupture of membranes, epidural anaesthesia and episiotomy. Most of the women delivered in the lithotomy position.

In terms of women's perceptions of well-being in labour and childbirth, maternal well-being was calculated and categorised into three outcomes, optimal, adequate, and poor. The optimal score had a prevalence of 43.5%, an adequate score was 30.8%, and a poor score was 25.5%. The city which reported the best score on the well-being scale was Ancud, at 77.6% optimal well-being. The rest of the regions showed significantly lower scores, with the exception of Coquimbo, which was 66.8%. The well-being scores are presented in Table 4.

Qualitative findings

A total of 26 FGD were carried out. The key information we elicited from the postpartum women in the FGD was their perceptions of the care they received (FGD=9; $n=27$). From the professional participants, we elicited their perception of the humanised model of care; midwives (FGD=9; $n=40$) and obstetricians (FGD=8; $n=29$).

The main sociodemographic characteristics of the participants in the qualitative sample were women between 16 and 37 years old. Midwives were between 24 and 62 years of age and had between 3 and 38 years of clinical experience. Obstetricians were 27 – 68 years old and had between 3 and 42 years of clinical experience.

Our findings were very similar across all regions showing a lack of adherence to the national guidelines that was related to barriers in the structure of the health system, barriers in personnel practice and attitude, and barriers in orientation of the users of the health system. It is worth noting that personnel practice and attitude were negatively perceived in Iquique (north), on the contrary findings from the professional staff and women revealed that Ancud (south) was perceived as a very collaborative team, in accordance to quantitative findings showing this site one of the better adherence to the recommendations.

Structure and infrastructure of the health system

All the midwifery focus groups reported that there had been little orientation to the clinical guidelines and not enough training. Obstetricians stated they had not been involved or trained in this model of attention at all. Both sets of professionals claimed that the hospital facility was not adequate for a more personalised model of care, which allows the presence of a significant companion throughout labour and childbirth and the free presence of relatives, without interfering with the care that is delivered. For example, as one midwife explained,

Table 3
Obstetrical variables by region, and total.

	Santiago	Iquique	Coquimbo	Valparaíso	Rancagua	Concepción	Ancud	Coyhaique	Total
Type of birth (%) CI									
Spontaneous Vaginal	70.8 (66.7–74.9)	82.8 (77.3–88.3)	72.2 (65.7–78.7)	82.6 (76.9–88.2)	83 (77.7–88.3)	76.7 (70.9–82.6)	73.8 (64.2–83.4)	81.3 (75.7–86.2)	74.1 (71.3–76.8)
Forceps	8.2 (5.7–10.7)	2.7 (0.3–5.0)	1.1 (0.0–2.6)	8.4 (4.3–12.5)	2 (0.4–3.9)	–	4.8 (0.11–9.4)	1.6 (0.0–3.3)	6.1 (4.5–7.7)
Cesárean	21 (17.3–24.7)	14.5 (9.4–19.6)	26.7 (20.3–33.1)	8.9 (4.8–13.2)	15 (10–20)	23.3 (17.4–29.1)	21.4 (12.5–30.4)	17.2 (11.8–22.6)	19.8 (17.4–22.3)
	0.003	ns	0.019	ref	ns	ns	ns	ns	
Nutrition (feeding) during labour (%) CI									
No oral nutrition	94.2 (92.0–96.3)	90.9 (86.6–95.0)	64.8 (57.9–71.8)	57.7 (50.7–64.7)	51.2 (44.3–58.2)	56.2 (49.3–66.1)	31.3 (20.9–41.6)	41.7 (33.8–49.5)	81.5 (79.6–83.5)
Liquid nutrition	4.5 (2.6–6.4)	7.5 (3.7–11.4)	31.4 (24.6–38.1)	31.9 (25.3–38.6)	7.4 (3.8–11.1)	30.8 (24.4–37.3)	41.3 (35.1–57.4)	25.0 (18.1–31.9)	11.2 (9.7–12.8)
Light nutrition	1.3 (0.3–2.3)	1.6 (0.0–3.4)	3.8 (1.0–6.6)	10.3 (6.0–14.6)	41.3 (34.4–48.2)	12.9 (8.3–17.6)	22.5 (13.1–31.8)	33.3 (25.8–40.8)	7.2 (6.1–8.4)
	0.000	0.000	0.000	0.00	ref	0.000	0.004	ns	
Parental hydration during labour (%) CI									
Yes	99.7 (99.3–100.0)	97.2 (94.9–99.6)	82.2 (76.7–87.7)	91.7 (87.8–95.6)	97.4 (95.2–99.6)	81.5 (76.0–86.9)	44.4 (33.3–55.5)	91.3 (87.1–95.4)	95.7 (94.9–96.5)
No	0.2 (0.0–0.6)	2.7 (0.3–5.0)	17.7 (12.2–23.2)	8.2 (4.3–12.1)	2.5 (0.3–4.7)	18.5 (13.0–23.9)	55.5 (44.4–66.6)	8.6 (4.5–12.8)	4.2 (3.4–5.0)
	0.000	0.000	0.000	0.000	0.000	0.000	ref	0.000	
Foetal intrapartum monitoring (%) CI									
Initially	1.4 (0.3–2.5)	_	40,2 (32,7–47,7)	12.7 (8.0–17.4)	21.8 (16.1–27.6)	1.5 (0.0–3.1)	34.1 (23.8–44.4)	3.6 (0.9–6.3)	5.4 (4.4–6.3)
Paucity during labour	17.4 (14.0–20.8)	67.5 (60.7–74.3)	57,3 (49,8–64,9)	82.6 (77.3–88.0)	70.6 (64.2–76.9)	95.5 (92.6–98.3)	62.3 (51.8–72.8)	89.4 (85.1–93.8)	39.9 (37.2–42.7)
Continuous during labour	81.1 (77.5–84.6)	32.4 (25.6–39.2)	2.3 (0.0–4.6)	4.5 (1.6–7.5)	7.4 (3.7–11.1)	3.0 (0.6–5.3)	3.5 (0.0–7.5)	6.8 (3.2–10.4)	54.6 (51.6–57.5)
	0.000	0.000	ns	ns	ns	ref	ns	ns	
Membrane status (%) CI									
Spontaneous ruptura during labour	29.2 (25.0–33.3)	41.4 (34.3–48.5)	38.0 (30.9–45.1)	33.1 (26.5–39.8)	38.3 (31.5–45.2)	40.2 (33.4–47.1)	48.8 (37.8–59.7)	34.0 (27.2–40.8)	32.6 (29.8–35.4)
Artificial rupture during labour	63.4 (59.0–67.8)	41.4 (34.3–48.5)	37.5 (30.4–44.5)	65.8 (59.1–72.5)	56.5 (49.6–63.5)	57.2 (50.3–64.1)	26.1 (16.5–35.7)	48.4 (41.1–55.6)	59.1 (56.2 –62.1)
Rupture during third stage	7.3 (4.9–9.7)	17.0 (11.6–22.4)	24.4 (18.1–30.7)	1.0 (0.0–2.4)	5.0 (1.9–8.1)	2.4 (0.3–4.6)	25.0 (15.5–34.4)	17.5 (12.0–23.0)	8.1 (6.5–9.7)
	0.000	0.017	ns	0.000	0.000	0.000	ref	0.001	
Medically induced labour (%) CI									
Yes	93.7 (91.5–95.9)	75.5 (69.3–81.7)	75.4 (69.1–81.6)	90.7 (86.6–94.8)	92.0 (88.2–95.8)	94.5 (91.3–97.7)	43.5 (32.7–54.2)	85.3 (80.2–90.4)	90.8(89.3–92.4)
No	6.2 (4.1–8.4)	24.4 (18.2–30.6)	24.5 (18.3–30.8)	9.2 (5.1–13.3)	7.9 (4.1–11.7)	5.4 (2.2–8.6)	56.4 (45.7–67.2)	14.6 (9.5–19.7)	9.1 (7.5–10.6)
	0.000	0.000	0.000	0.000	0.000	0.000	ref	0.000	
Method of pain relief (%) CI									
Pharmacological	83.8 (80.5–87.2)	27.4 (20.0–34.8)	30.4 (23.2–37.6)	37.5 (30.5–44.4)	29.0 (22.3–35.7)	45.3 (38.2–52.4)	3.7 (0.0–8.1)	29.4 (22.8–36.0)	66.2 (63.5–68.9)
Not pharmacological	1.9 (0.6–3.1)	40.8 (32.6–49.0)	37.8 (30.3–45.4)	15.6 (10.4–20.8)	16.7 (11.2–22.2)	14.5 (9.5–19.6)	91.1 (84.7–97.5)	20.8 (14.9–26.7)	9.7 (8.3–11.0)
Mixed	14.1 (11.0–17.3)	31.6 (23.9–39.4)	31.6 (24.4–38.9)	46.8 (39.7–53.9)	54.1 (46.8–61.5)	40.1 (33.1–47.1)	5.0 (0.1–10.0)	49.7 (42.5–56.9)	24.0 (21.6–26.4)
	0.000	0.000	0.000	0.000	0.000	0.000	ref	0.000	
Free walking during labour (%) CI									
Yes	23.4 (19.6–27.3)	45.9 (38.6–53.1)	74.8 (68.5–81.1)	51.5 (44.4–58.5)	51.7 (44.7–58.7)	41.5 (34.6–48.3)	91.5 (85.4–97.6)	73.5 (67.1–79.9)	65.2 (62.5–67.9)
No	76.5 (72.7–80.3)	54.0 (46.8–61.3)	25.1 (18.8–31.4)	48.4 (41.4–55.5)	48.2 (41.2–55.2)	58.5 (51.6–65.3)	8.4 (2.3–14.5)	26.4 (20.0–32.9)	34.7 (32.0–37.4)
	0.000	0.000	0.003	0.000	0.000	0.000	ref	0.001	
Use of birthing ball (%) CI									
Yes	2.5 (1.1–3.9)	41.9 (34.7–49.0)	4.8 (1.7–7.9)	2.5 (0.3–4.8)	14.1 (9.1–18.9)	27.8 (21.6–34.1)	48.2 (37.3–59.1)	53.8 (46.5–61.1)	10.3 (8.9–11.7)
No	97.4 (96.1–98.8)	58.1 (50.9–65.2)	95.1 (92.0–98.2)	97.4 (95.1–99.6)	85.9 (81.1–90.8)	72.1 (65.8–78.3)	51.7 (40.9–62.6)	46.1 (38.9–53.4)	89.6 (88.2–91.0)
	0.000	0.023	0.000	0.000	0.000	0.000	ns	ref	
Companion during labour (%) CI									
Yes	66.8 (62.6–71.1)	88.8 (84.2–93.3)	98.3 (96.5–100.0)	74.4 (68.3–80.6)	49.2 (42.2–56.2)	67.1 (60.6–73.7)	83.5 (75.4–91.5)	89.5 (84.9–94.0)	69.6 (66.7–72.4)
No	33.1 (28.8–37.3)	11.1 (6.6–15.7)	1.6 (0.0–3.4)	25.5 (19.3–31.6)	50.7 (43.7–57.7)	32.8 (26.2–39.3)	16.4 (8.4–24.5)	10.4 (5.9–15.0)	30.3 (27.5–33.2)
	0.001	0.013	ref	0.017	0.000	0.000	0.000	0.008	

Table 3 (*continued*)

	Santiago	Iquique	Coquimbo	Valparaíso	Rancagua	Concepción	Ancud	Coyhaique	Total
Maternal posture during third stage (%) CI									
Seated/semi-seated	.	5.0 (1.5–8.4)	0.7 (0.0–2.2)	12.1 (7.4–16.7)	2.9 (0.3–5.5)	94.2 (90.5–97.9)	10.4 (2.9–17.9)	38.8 (30.4–47.1)	10.1 (8.8–11.5)
Lithotomy	86.4 (83.2–89.6)	94.3 (90.6–97.9)	99.2 (97.7–100.0)	73.1 (67.7–79.5)	97.0 (94.4–99.6)	4.4 (1.2–7.7)	86.5 (78.1–94.9)	61.1 (52.8–69.5)	79.7 (77.3–82.2)
Side-lying	.	.	.	0.5 (0.0–1.5)	.	.	.	.	0.0 (0.0–0.1)
Other	13.5 (10.3–16.7)	0.6 (0.0–1.8)	.	14.2 (9.2–19.2)	.	1.2 (0.0–3.0)	2.9 (0.0–7.1)	.	9.9 (7.8–12.1)
	0.000	0.000	0.000	0.000	0.000	ref	0.000	0.000	
Episiotomy (%) CI									
Yes	57.5 (52.7–62.3)	48.4 (40.5–56.2)	66.9 (58.9–74.9)	39.8 (32.8–46.9)	78.3 (72.1–84.5)	59.6 (51.8–67.4)	28.0 (17.5–38.4)	28.1 (21.0–35.1)	56.4 (53.1–59.6)
No	42.4 (37.6–47.2)	51.5 (43.7–59.4)	33.1 (25.1–41.1)	60.1 (53.0–67.1)	21.6 (15.4–27.8)	40.3 (32.5–48.1)	72.0 (61.5–82.4)	71.8 (64.8–78.9)	43.5 (40.3–46.8)
	0.000	0.004	0.000	ns	0.000	0.000	ref	ns	
Companion during third stage (%) CI									
Yes	87.6 (84.5–90.6)	90.9 (86.7–95.0)	97.3 (94.9–99.6)	91.2 (87.2–95.2)	65.5 (58.8–52.1)	80.1 (74.6–85.6)	73.8 (64.2–83.4)	90.2 (85.8–94.5)	86.0 (83.9–88.1)
No	12.3 (9.3–15.4)	9.0 (4.9–13.2)	2.6 (0.3–5.0)	8.7 (4.7–12.7)	34.5 (27.8–41.1)	19.8 (14.2–25.3)	26.1 (16.5–35.7)	9.7 (5.4–14.1)	13.9 (11.8–16.6)
	0.001	0.013	Ref	0.017	0.000	0.000	0.000	0.008	

With respect to skin-to skin contact, meaning that practically the mother is with the infant all day, the only problem is the space and the service; generally here we say the family should be with her. Skin-to skin with the father, with the brothers and sisters – but we can't do this either, because of the space thing. I have eight patients per Ward, imagine, the father demanding this on each patient, [the Ward] would be overwhelmed, you just cannot do it (Valparaíso).

Obstetricians reported that medical training, both as undergraduate, as well as postgraduate during the specialty (gynaecologist and obstetrics) did not incorporate this more personalised approach furthermore, continuing medical education does not include these aspects.

The region where the personnel structure and teamwork was exceptionally good was the Regional Hospital of Ancud. The outcomes from this hospital indicated less medical intervention and higher scores in maternal well-being, as well as more satisfaction expressed by women during the FGDs. Conversely, the focus groups with postpartum women from the Regional Hospital of Iquique revealed the highest proportion of deteriorated medical equipment, whereas the scores on the Maternal Well-Being Scale revealed more discomfort about the treatment women received.

Perceptions about labour and delivery

Women stated they did not feel heard; they did not receive information, and were not considered in decision-making regarding procedures or interventions. They felt they were treated as objects on whom actions were performed, they did not feel considered as subjects. As women from two different sites put it,

The only thing that is missing is how they [midwives and obstetricians] can become more flexible, because for example, one wants to ask something, and they do not like you to ask much, they get mad. Then one does not understand their technical language, because of course they have more training; then I of course I would fail at that. I believe a little more understanding, …for example, if I were a doctor I would have more understanding toward the patients, understand them, put myself in their place (Participant from Valparaíso).

The midwife on the floor where I am is unbearable, she is a person that doesn't know how to treat people. Here everyone scolds you, they say, 'that isn't done that way, no, no, don't do that,' they scold people for everything. I really have not been at a hospital where they have someone so unbearable, they ought to change personnel. Because if a person does not have the ethics to treat people, they can't have her taking care of people (Participant from Concepción).

However, participants did feel that the obstetric team (midwives and obstetricians) were competent and very skilled technically. None of the midwives or the doctors acknowledged that women might be afraid during any of the steps in the process. These findings were strongly consistent across the groups in each of the regions. The greatest dissatisfaction women reported related to the treatment they received from the staff, frankly reported as 'mistreatment.'

The midwives, on the other hand, complained about women's lack of childbirth education during antenatal care. They felt women were not able to be highly participatory in their own care and were not prepared for a low intervention approach.

We started badly, we started the opposite way, we started with a nice story [low intervention management], pretty and everything, but we did not prepare our people from outside. So, of course, we offer them good things here, and for that people come and say, 'but they didn't do anything!' and you hear, doing nothing means not putting in an IV! (Midwife from Ancud).

Table 4
Well-being scores during labour and childbirth.

	Santiago	Iquique	Coquimbo	Valparaíso	Rancagua	Concepción	Ancud	Coyhaique	Total
Optimal	40.3 (35.9–44.7)	29.8 (23.2–36.5)	66.8 (60.0–73.6)	55.1 (48.0–62.1)	38.3 (31.5–45.1)	46.5 (39.5–53.4)	77.6 (68.6–86.6)	69.4 (62.8–7.9)	43.5 (40.6–46.5)
Adequate	32.1 (27.9–36.3)	34.7 (27.8–41.7)	25.1 (18.8–31.4)	25.5 (19.3–31.6)	33.8 (27.2–40.4)	30.1 (23.8–36.5)	18.8 (10.3–27.3)	17.6 (12.1–23.0)	30.8 (28.0–33.6)
Poor	27.5 (23.4–31.5)	35.3 (28.3–42.2)	8.0 (4.0–11.9)	19.3 (13.8–24.9)	27.8 (21.6–34.1)	23.2 (17.3–29.1)	3.5 (0.0–7.5) Ref	12.9 (8.1–17.7)	25.5 (22.8–28.2)

The shaded cells represent the reference category established for comparison.

Discussion

Despite the efforts of the Ministry of Public Health to improve care during childbirth through the implementation of the 'Model of Integrated and Humanised Health Services', and the Clinical Guide for Humanised Attention during Labour and Childbirth (CMPH, 2007), this study found an overutilization of labour augmentation, artificial rupture of membranes, continuous fetal monitoring, episiotomies and epidural anaesthesia. Most of the women were in lithotomy position during the third stage and did not walk freely during labour. Almost 20% of low risk women in spontaneous labour delivered by caesarean section. If one includes both the planned/programmed and emergency caesarean sections, this proportion increases to almost 40% nationally, a figure which has been increasing during the last several years (CMPH, 2013). The caesarean rate is one of the highest in the Latin American region as well as Brazil (Gibbons et al., 2012; OCDE, 2013).

One important contribution of this study is that until now, there has not been any assessment of the processes of midwifery care in the public system across Chile. This study provides a baseline from which to measure improvements in midwifery care over time. The WHO vision for quality care for pregnant women and newborns calls for situation analyses from which to use recommendations and implement effective interventions to improve the quality of care (Tunçalp et al., 2015).

Another important contribution is the knowledge about the variability of care from region to region. The observed difference in the Regional Hospital of Ancud showed lower rates of intervention and higher scores in maternal well-being, concordant with higher satisfaction reported by the women during FGDs in that site. This is aligned with the team work based on trust, respect and sharing the same purpose that was voiced by the midwives and obstetricians in their FGD.

In contrast, the findings in the Regional Hospital of Iquique revealed greater discontent as reported through the FGD of postpartum women, as well as a higher percentage of discomfort in the scale of maternal well-being regarding the treatment the surveyed women received. This was also consistent with a more dysfunctional obstetric team reported by the FGD with midwives as well as with obstetricians. A more in-depth qualitative research study of the organisational culture of the maternity units of both institutions would yield greater insight into the differences, which could serve as lessons to implement future improvement as well.

Uribe et al. (2008) report that women define well-being as feeling well treated, valued as persons, and receive respectful care. This has been confirmed elsewhere in the literature (Homer, 2007; Hunter, 2008; Parratt and Fahy, 2008; Pembroke and Pembroke, 2008; Homer et al., 2009; Binfa et als., 2011, 2013; Srivastava et al., 2015).

We believe the difference between the qualitative findings with the well-being scores deserves further scrutiny. As reported above, although the aggregate data on the processes of care in labour and childbirth indicates that the majority of women received care inconsistent with the current best scientific evidence for low-risk populations of women, nevertheless, only one third of women reported overall dissatisfaction with their care. It is likely some of the women who were surveyed did not report dissatisfaction because they did not know that there were other alternatives for their care that may have avoided a caesarean section or provided a more satisfying and empowering experience of childbirth.

As expected, there was a range of perceptions in the focus groups about the quality of care received. Highlighting the negative comments can misconstrue the overall picture. A subsample of women with negative experiences, however, can bring important concerns to the attention to the providers of health services and the health care system. This is evident from the voices of

women who felt they had been mistreated. Such treatment violates the code of professional ethics in all health professions everywhere.

The WHO affirms that disrespectful treatment violates the rights of women and also infringes on their health, bodily integrity, right to life and freedom from discrimination (WHO, 2014). The findings from this study are aligned with many of the categories of mistreatment described in a systematic review of the global literature on mistreatment of women during labour and childbirth (Bohren et al., 2015). Our study, then, is a call to action for midwifery in Chile on several fronts.

First, reports of mistreatment have implications for midwifery services in all regions, as well as educators of future generations of midwives and obstetricians to ensure all midwives value women's rights to have both a safe and satisfying experience.

Second, despite theoretical autonomy to conduct the management of labour and birth in promotion of physiological birth, in general, the midwives in the study did not feel they truly had autonomy to exercise their role. It may be that midwives experience burnout or compassion fatigue because their identity as midwives has been sublimated, such that they defer to a more medicalised approach to the care of low risk women. Many of the midwifery and obstetric staff in this study felt that the health facilities were not adequate to implement the humanised model of care, which must allow participation of the family as well as privacy.

Midwife-led care in birth centres, (named Unidades de Parto Integrado in Chile), supports midwives to develop the confidence to manage and promote physiologic birth by their presence and their practice. A systematic review concluded that the design of birth centres is related to higher levels of satisfaction for mothers and lower rates of medical procedures, without increasing the mother's or baby's risk (Hodnett et al., 2012). At the time of writing, there is a plan to pilot and evaluate a midwife-led birth centre in Santiago.

Limitations of the study

Because of time and funding limitations, it was not feasible to use a randomised sample design in this study. Therefore, given that the sample was a convenience sample, one must be cautious about generalising the results. In the qualitative phase of the study, there was variability in the attendance of the focus groups, including one region where there was no participation by obstetricians, and in another with few a midwife participants. Thus, some important information may have been omitted by the absence of their voices. The research team also intended to collect additional data in the form of in-depth interviews with those in charge of the maternity units, but with the exception of two cases, this was not possible during the period of time that the research team was present in the different regional locations across the country.

Conclusions and implications

In 2007, the Ministry of Health published the 'Model of Integrated and Humanised Health Services', and the Clinical Guide for Humanised Attention during Labour and Childbirth (CMPH, 2007). As described by Davis Floyd, a paradigmatic change means a deep change affecting the whole system with good strategies of socialisation and engagement (Davis-Floyd, 2001; Davis-Floyd, 2007). These strategies were not effective, as the results of this study indicate. Most women in nine public regional hospitals in Chile are not receiving the most current, evidence-based care. Most women feel their care is adequate, but one third of them do not. There is insufficient collaboration within the obstetric team, and suboptimal communication, which can be perceived by the women.

There are several explanatory factors why implementation of the humanised model of care across all the regions has been inadequate. First, there is a high demand for care, limiting time to meet each woman's needs. Second, the model was initiated without acknowledging the sociocultural characteristics of each regional context and ignoring local realities regarding the attitudes of each regional health team.

Also, human resources failed to engage midwives sufficiently in this model. There continues to be resistance especially from older professionals, unlike the younger midwifery staff who have been taught about the benefits of normal childbirth. Women as well, are not oriented to this normal process during antenatal care, limiting their capacity for decision-making and participating.

More research is needed to disseminate why evidence-based midwifery practice flourishes in some regions and not in others. This study is a first step as a baseline, from which to measure the improvements in quality care for all women cared for by midwives across Chile.

Conflict of interest

No conflict of interest has been declared by the author(s).

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