INVESTIGACIÓN EN LA RED COLABORATIVA NEOCOSUR

Score Neocosur
Tipos de estudios
Significado y Posibilidades

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- Redes Neonatales → Son todas Iguales?
- Somos una “Red de Investigación”?
- Definición de Identidad, 10 años de existencia
- Estado de situación, contexto, visión realista
- Estrategia, Misión y optimismo
- Aportes: pasado presente y futuro

Table 1. NICHD Neonatal Research Network: 1986-2006

1986-1991	*1991-1996*	*1996-2001*	*2001-2006*
Case Western Reserve University	Case Western Reserve University	Case Western Reserve University	Case Western Reserve University
University of Miami	University of Miami	University of Miami	University of Miami
University of Texas-Southwestern	University of Texas-Southwestern	University of Texas-Southwestern	University of Texas-Southwestern
Wayne State University	Wayne State University	Wayne State University	Wayne State University
University of Tennessee-Memphis	University of Tennessee-Memphis	University of Tennessee-Memphis	Brown University
University of Alabama-Birmingham	Brown University	Brown University	Emory University
University of Vermont*	Emory University	Emory University	Indiana University
Dartmouth University*	Indiana University	Indiana University	Stanford University
	Stanford University	Stanford University	Yale University
	Yale University	Yale University	University of Cincinnati
	University of Cincinnati	University of Cincinnati	University of Alabama-Birmingham
	University of New Mexico	University of New Mexico	University of Texas-Houston
		University of Alabama-Birmingham	Duke University
		Harvard University	Wake Forest University
			University of California-San Diego
			University of Rochester

*Joint center.

- Estudios comprobatorios (eficacia) vs pragmáticos (efectividad)
- Estudios observacionales importantes
- Redes para cada tipo?
- Red NICHD se crea en 1986 en un contexto de “novedades terapéuticas” con la finalidad de basar la práctica en evidencia
- Vermont Oxford propone estudios “pragmáticos”
- Este tipo de desafíos requieren de una red para afrontarlos
- Encontrar y desarrollar el rol de nuestras redes locales

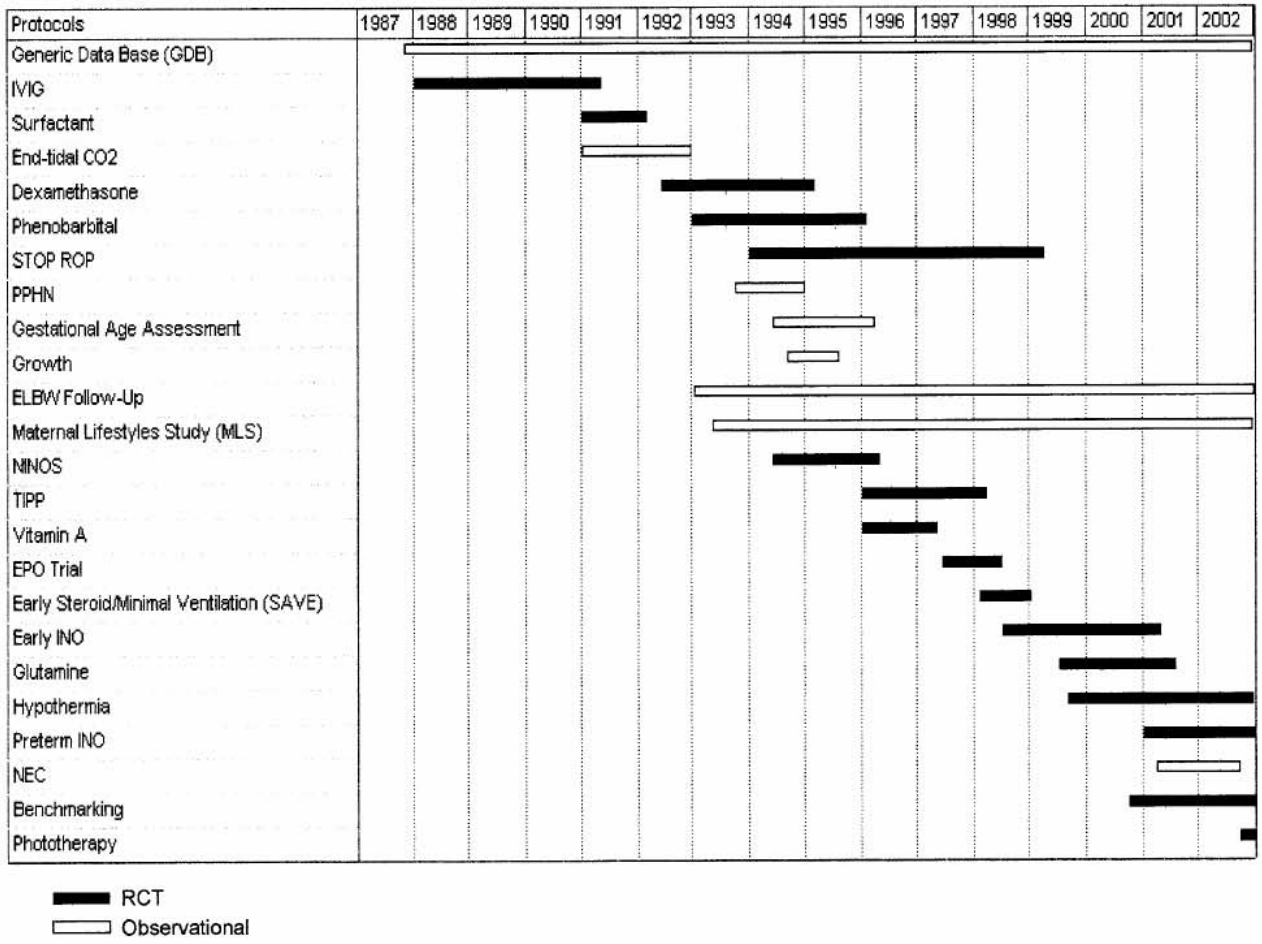

Figure 1. This figure displays a time line during which patient recruitment occurred for the NICHD Neonatal Research Network randomized controlled trials (RCT) and observational studies conducted between 1987 and 2002.

RED COLABORATIVA NEOCOSUR

- Más de 20 centros terciarios del cono sur
- Coordinadores locales
- Dirección colegiada y electa por voto
- Registro continuo RNMBP
- Comité científico: estatutos, reglamento y procedimientos (presentación, evaluación autoría)
- En permanente desarrollo
- Sin financiación oficial

Producción Científica

- Más de 30 presentaciones en Congresos
- Publicaciones:

1: Tapia JL, Agost D, Alegria A, Standen J, Escobar M, Grandi C, Musante G, Zegarra J, Estay A, Ramírez R; NEOCOSUR Collaborative Group. Bronchopulmonary dysplasia: incidence, risk factors and resource utilization in a population of South American very low birth weight infants. J Pediatr (Rio J). 2006 Jan-Feb;82(1):15-20.

2: Marshall G, Tapia JL, D'Apremont I, Grandi C, Barros C, Alegria A, Standen J, Panizza R, Roldan L, Musante G, Bancalari A, Bambaren E, Lacarruba J, Hubner ME, Fabres J, Decaro M, Mariani G, Kurlat I, Gonzalez A; Grupo Colaborativo NEOCOSUR.
A new score for predicting neonatal very low birth weight mortality risk in the
NEOCOSUR South American Network. J Perinatol. 2005 Sep;25(9):577-82.

3: Grandi C, Tapia JL, Marshall G; Grupo Colaborativo NEOCOSUR. [An assessment of the severity, proportionality and risk of mortality of very low birth weight infants with fetal growth restriction. A multicenter South American analysis]. J Pediatr (Rio J). 2005 May-Jun;81(3):198-204.

4: Grupo Colaborativo Neocosur. Very-low-birth-weight infant outcomes in 11 South American NICUs. J Perinatol. 2002 Jan;22(1):2-7.

Varios estudios más (en diferentes etapas)

Tipos de Iniciativas/Estudios

- Uso del Registro Continuo /Base de Datos: estudios observacionales, analíticos con alto número de pacientes
- Iniciativas de Mejora de Calidad
- Estudios prospectivos sin intervenciones
- Ensayos Aleatorizados Controlados

El Score de Neocosur

Original Article

A New Score for Predicting Neonatal Very Low Birth Weight Mortality Risk in the NEOCOSUR South American Network

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Ivonne D'Apremont, MD
Carlos Grandi, PhD
Claudia Barros, MD
Angelica Alegria, MD
Jane Standen, MD
Ruben Panizza, MD
Liliana Roldan, MD
Gabriel Musante, MD
Aldo Bancalari, MD
Enrique Bambaren, MD
Jose Lacarruba, MD
Maria E. Hubner, MD
Jorge Fabres, MD
Marcelo Decaro, MD
Gonzalo Mariani, MD
Isabel Kurlat, MD
Agustina Gonzalez, MD
For the Grupo Colaborativo NEOCOSUR

OBJECTIVE:

To develop and validate a model for very low birth weight (VLBW) neonatal mortality prediction, based on commonly available data at birth, in 16 neonatal intensive care units (NICUs) from five South American countries.

STUDY DESIGN:

Prospectively collected biodemographic data from the Neonatal del Cono Sur (NEOCOSUR) Network between October 2000 and May 2003 in infants with birth weight 500 to 1500 g were employed. A testing sample and crossvalidation techniques were used to validate a statistical model for risk of in-hospital mortality. The new risk score was compared with two existing scores by using area under the receiver operating characteristic curve (AUC).

RESULTS:

The new NEOCOSUR score was highly predictive for in-hospital mortality (AUC = 0.85) and performed better than the Clinical Risk Index for Babies (CRIB) and the NICHD risk models when used in the NEOCOSUR Network. The new score is also well calibrated — it had good predictive capability for in-hospital mortality at all levels of risk (HL test = 11.9, $p = 0.85$). The new score also performed well when used to predict in hospital neurological and respiratory complications.

CONCLUSIONS:

A new and relatively simple VLBW mortality risk score had a good prediction performance in a South American network population. This is an important tool for comparison purposes among NICUs. This score may prove to be a better model for application in developing countries.
Journal of Perinatology (2005) **25**, 577–582. doi:10.1038/sj.jp.7211362; published online 28 July 2005

INTRODUCTION

Risk-adjusted mortality has been used to compare hospital's

El Modelo Neocosur

Respuesta:

Mortalidad neonatal

Datos:

1801 Nacimientos MBPN

16 Hospitales del Neocosur

Modelo:

Regresión Logística

Factores de Riesgo:

- Peso al Nacer
- Edad Gestacional
- MC con compromiso vital
- Apgar 1 minuto
- Sexo RN
- Uso de corticoides prenatal

Modelo de Regresión Logística

Contribución de los Factores

Factor	Chi-cuadrado	Valor-p
Peso al nacer	343.6	< 0.01
Edad gestacional	32.4	< 0.01
Apgar 1 minuto	111.1	< 0.01
Malformaciones congénitas	45.0	< 0.01
Uso de Corticoides Prenatal	16.4	< 0.01
Sexo del RN	9.0	< 0.01

Modelo de Regresión Logística

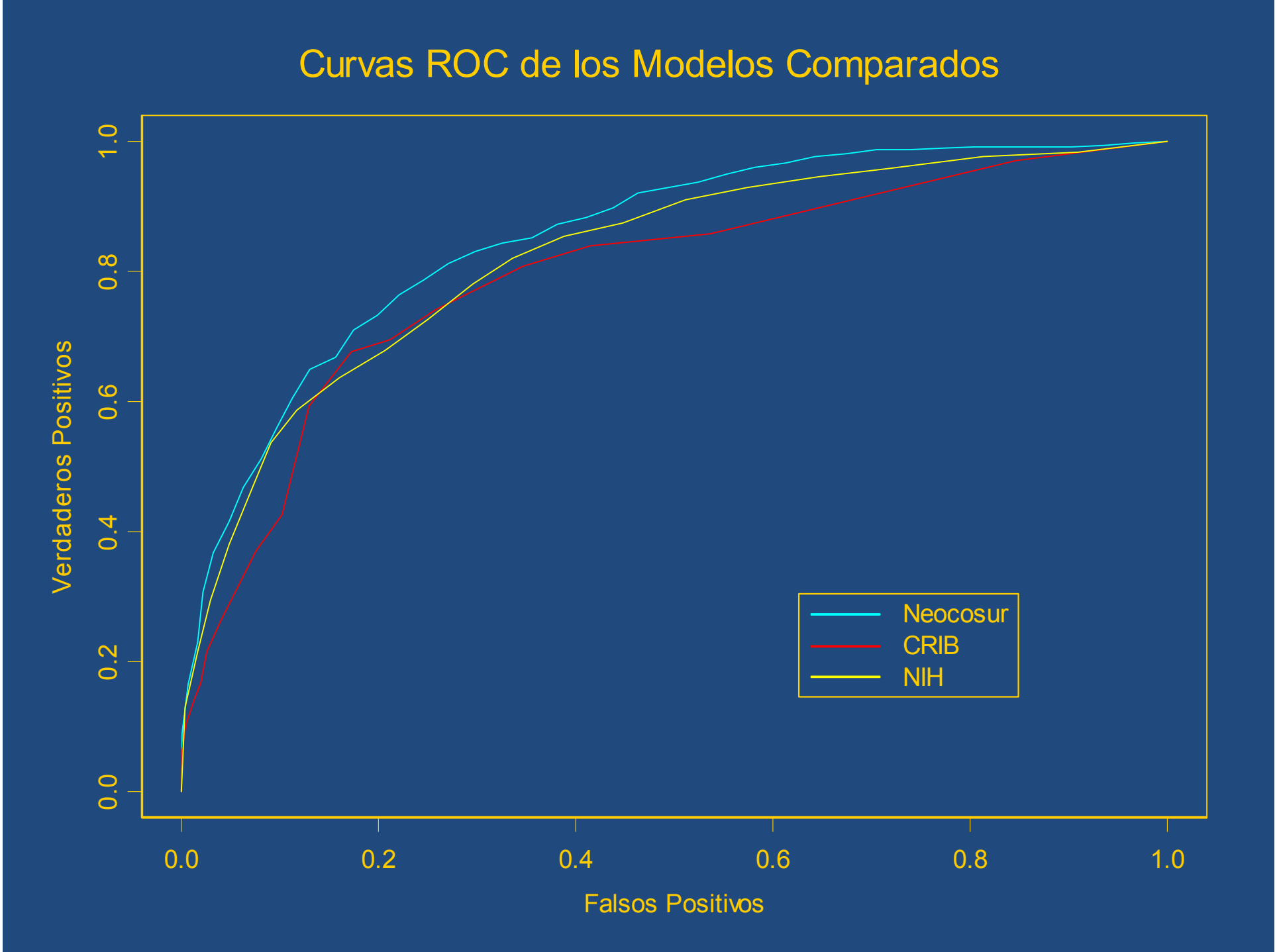
Coeficientes del Modelo

Factor	Coeficiente	SE.
Constante	10.09	0.99
Peso al nacer (x 100g)	-0.331	0.04
Edad gestacional	-0.132	0.04
Apgar 1 minuto	-0.265	0.03
Malformaciones congénitas	1.710	0.32
Uso de Corticoides Prenatal	-0.302	0.08
Sexo del RN	-0.474	0.16

Poder Predictivo de los Tres Modelos Comparados

Muestra de Desarrollo, Validación y Total

Score de Riesgo	Muestra	Area Bajo Curva ROC
NEOCOSUR	Desarrollo	0.88
	Validación	0.84
	Total	0.87
	Cross-validation	0.85
CRIB	Total	0.79
NICHD	Total	0.83
Peso al Nacer	Total	0.79


Curvas ROC de los Modelos Comparados
Verdaderos Positivos
0.0
0.2
0.4
0.6
0.8
1.0
Falsos Positivos
0.0
0.2
0.4
0.6
0.8
1.0
Neocosur
CRIB
NIH

¿Cómo se Calcula la razón O/E para cada centro?

RN	Muerte	Score Neocosur
1	0	0,11
2	0	0,23
3	0	0,17
4	0	0,20
5	0	0,21
6	1	0,30
7	1	0,13
8	0	0,11
9	0	0,68
10	1	0,68
Total	3	2,820

O/E = 3 / 2.82 = 1.06

¿Cómo se Interpreta el O/E?

Razón O/E = 1.5	El centro tiene una mortalidad 50% mayor a la esperada según su población de pacientes
Razón O/E = 1.0	Mortalidad observada igual a la esperada
Razón O/E = 0.5	Mortalidad 50% menor a la esperada

Mortalidad Ajustada

Razón Observado/Esperado

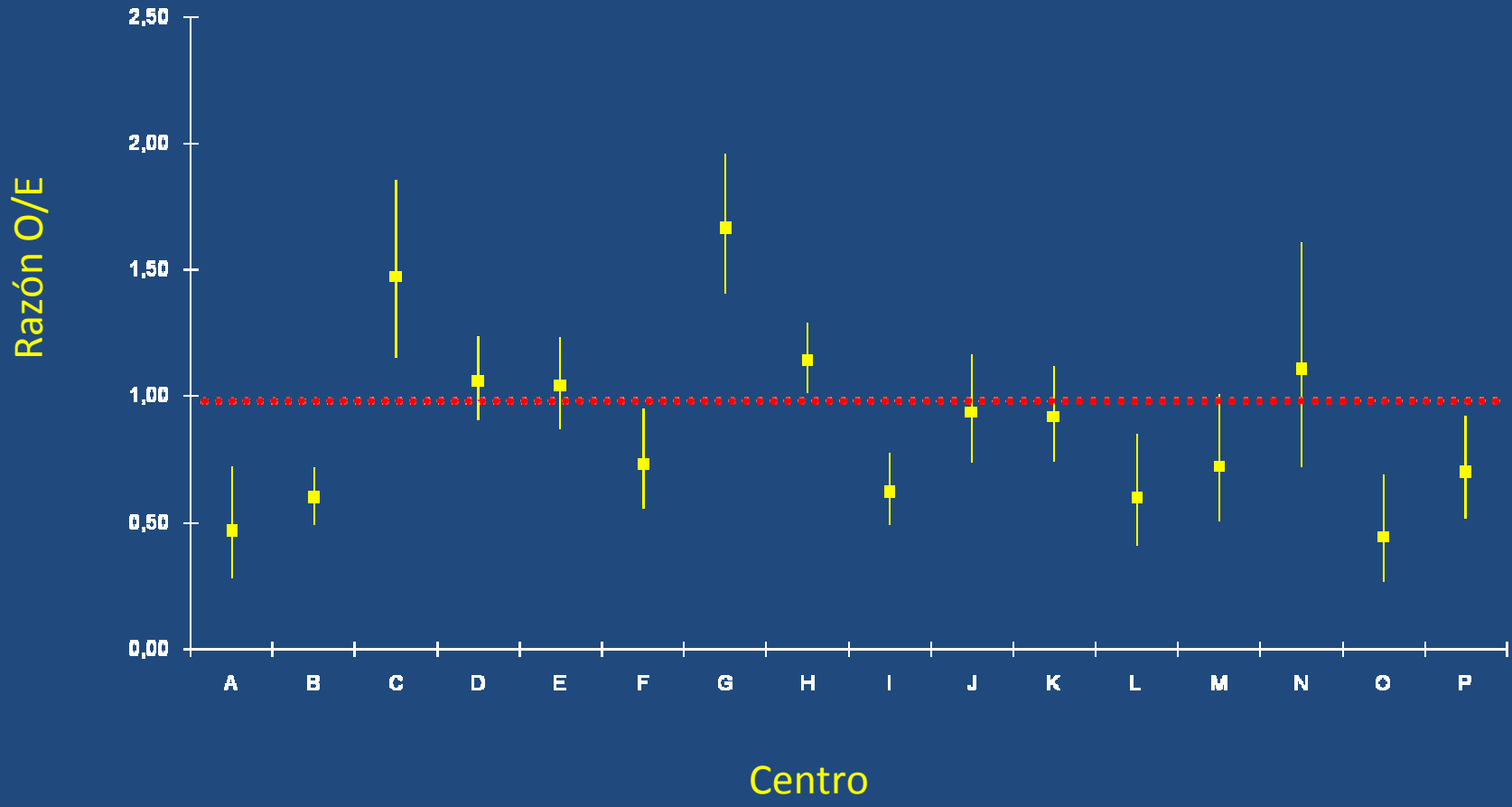
2001-2006

Año	N	Observado	Esperado	Razón O/E
2001	815	217	267	0,81
2002	837	192	228	0,84
2003	956	234	250	0,94
2004	986	279	285	0,98
2005	949	283	290	0,98
2006	933	245	267	0,92
Total	4543	1205	1320	0,91

Mortalidad Ajustada por Centro

Razón Observado/Esperado

resultados desde el 2001



Mortalidad Ajustada por Centro

Cambio en 2006 respecto al período 2001-2005

Centro	2001-2005	2006	% Cambio
A	0,48	0,41	-15,0
B	0,58	0,70	21,3
C	1,52	1,19	-21,4
D	1,14	0,71	-37,4
E	1,01	1,20	18,6
F	0,71	0,81	14,3
G	1,65	1,81	9,7
H	1,06	1,56	46,3
I	0,64	0,54	-15,7
J	0,93	0,94	1,2
K	0,91	1,11	21,3
L	0,65	0,50	-22,8
M	0,70	0,90	28,8
N	1,14	0,86	-24,8
O	0,37	0,70	87,4
P	0,71	0,66	-7,4

Mortalidad Ajustada por Centro

Evolución en el tiempo

Centros A-D


Neocosur - Grupo Colaborativo - Windows Internet Explorer
http://sistemas.med.puc.cl/Neocosur/neocosur.asp
Favoritos
PubMed clipboard
Neocosur - Grupo Cola...
Página
Seguridad
Herramientas
English
neocosur
GRUPO COLABORATIVO NEONATAL
Neocosur es una agrupación voluntaria y sin fines de lucro de Unidades de Neonatología de los países del cono sur, reunidas con la misión de contribuir al mejoramiento continuo de los indicadores de salud neonatal de nuestros países.
Sólo Socios
Login:
Password:
Ingresar
DESCRIPCION
PROYECTOS
SCORE NEOCOSUR
Cálculo en Línea
Aplicación Benchmarking
NOTICIAS
LINKS DE INTERES
Estrategias
Para lograr su misión, Neocosur desarrolla las siguientes estrategias:
Evaluar en forma continua la mortalidad y morbilidad del Recién nacido muy bajo peso de nacimiento (RNMBPN) en la región.
Implementar estudios científicos de investigación
Servir como modelo de comparación de resultados entre las Unidades participantes de la región, o de otras regiones.
Proveer información de las intervenciones probadamente beneficiosas en el cuidado perinatal, y su impacto.
Promover proyectos educativos que contribuyan al mejoramiento de la calidad de atención del recién nacido y su familia.
Colaborar con la capacitación continua de profesionales médicos, de enfermería y otros afines a Neonatología
Promover el intercambio y colaboración entre las Unidades participantes en variados aspectos del cuidado médico y de enfermería en el área perinatal
Promover el seguimiento de los RNMBPN de los centros participantes
Promover apoyo a padres de prematuros hospitalizados y post alta
Destacado
XIV Seminario Internacional Avances en Pediatría Neonatal 06 al 08 de abril de 2011
Dirigido a: Neonatólogos, Pediatras, Becados de Pediatría y Neonatología, Enfermeras, Matronas, Terapistas.
Inscríbase gratuitamente y acceda a ver este y otros webinars aquí

NEOCOSUR Score RN entre 500 y 1500 grs.

NEOCOSUR Score
RN entre 500 y 1500 grs.

Peso al Nacer (en gramos)	
Edad Gestacional (semanas)	
Apgar 1-minuto	
Malformaciones Congénitas (con riesgo vital)	No
Uso de Corticoides Prenatal	Ninguno
Sexo Recién Nacido	Hombre
NEOCOSUR Score[1]	Calcular

[1]El score es un puntaje entre 0 y 1 y se interpreta como la probabilidad de muerte neonatal. Para más información ver Marshall G, Tapia JL, D'Apremont I et al. A New Score for Predicting Neonatal Very Low Birth Weight Mortality Risk in the NEOCOSUR South American Network. Journal of Perinatology (2005)

NEOCOSUR Score RN entre 500 y 1500 grs.

NEOCOSUR Score
RN entre 500 y 1500 grs.

Peso al Nacer (en gramos)	750
Edad Gestacional (semanas)	26
Apgar 1-minuto	4
Malformaciones Congénitas (con riesgo vital)	No
Uso de Corticoides Prenatal	Completo
Sexo Recién Nacido	Hombre
NEOCOSUR Score[1]	0.622 Calcular

[1]El score es un puntaje entre 0 y 1 y se interpreta como la probabilidad de muerte neonatal. Para más información ver Marshall G, Tapia JL, D'Apremont I et al. A New Score for Predicting Neonatal Very Low Birth Weight Mortality Risk in the NEOCOSUR South American Network. Journal of Perinatology (2005)

¿Cómo se Calcula la razón O/E para cada centro?

Planilla en WEB Neocosur

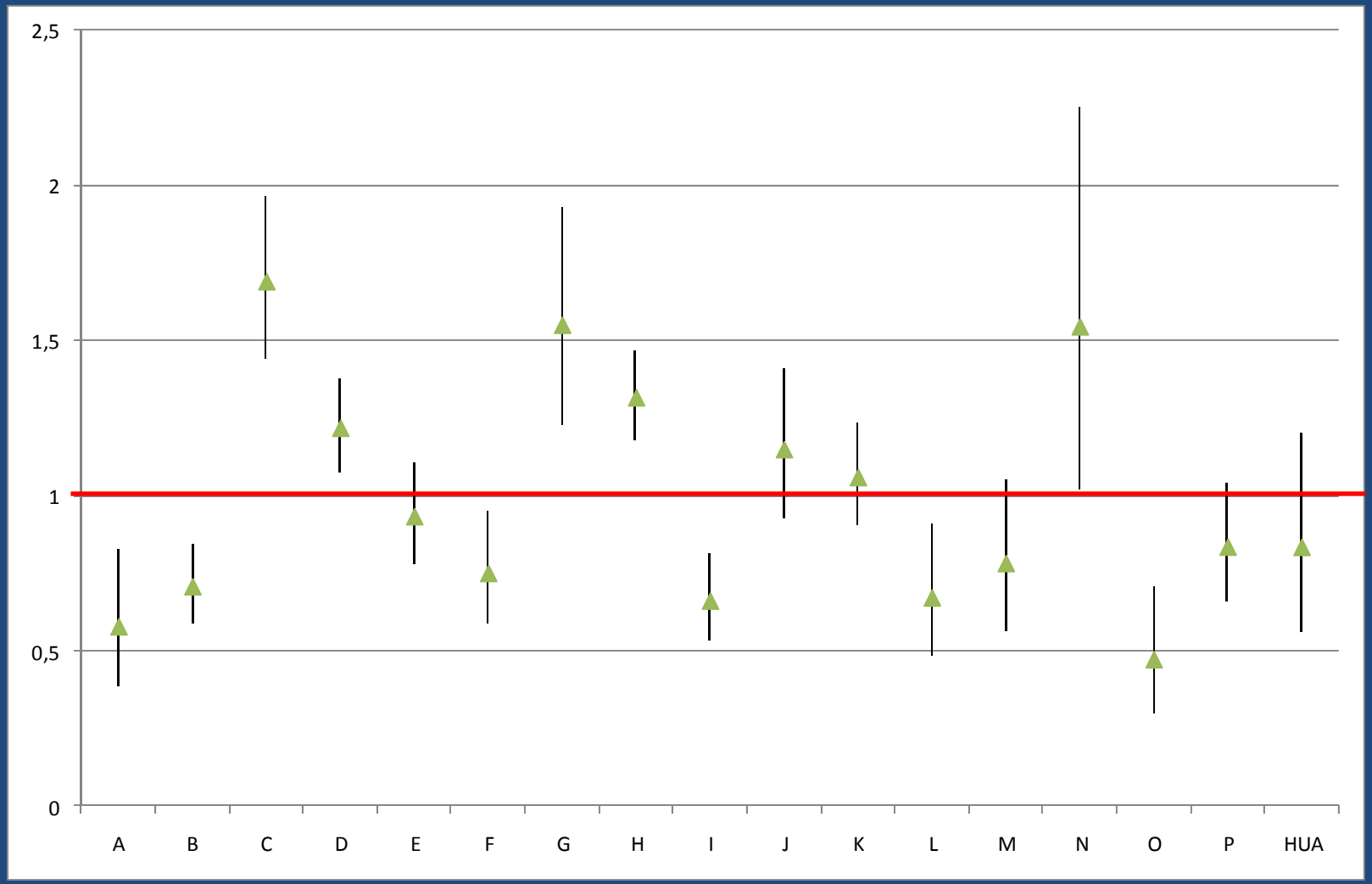
	A	B	C	D	E	F	G	H	I
1	Número de RN	Sobrevivencia RN	Peso al Nacer (gramos)	Edad Gestacional (semanas)	Apgar 1-minuto	Malformaciones Congenitas con compromiso vital	Uso Corticoides Prenatal	Sexo Recién Nacido	Neocosur Score
2	1	Si	1190	28	8	No	Completo	Hombre	0.093
3	2	Si	1490	35	8	No	Completo	Hombre	0.015
4	3	Si	1490	33	8	No	Incompleto	Hombre	0.026
5	4	Si	1420	33	8	No	Completo	Mujer	0.015
6	5	Si	1460	32	8	No	Incompleto	Hombre	0.032
7	6	Si	1420	34	8	No	Ninguno	Mujer	0.024
8	7	Si	1470	34	5	No	Completo	Mujer	0.025
9	8	Si	1320	34	9	No	Mas de uno	Hombre	0.017
10	9	Si	1360	34	8	No	Incompleto	Hombre	0.034
11	10	Si	1390	32	8	No	Incompleto	Hombre	0.040
12	11	Si	1480	30	9	No	Completo	Mujer	0.014
13	12	Si	1490	34	8	No	Completo	Hombre	0.017
14	13	Si	1460	34	8	No	Mas de uno	Mujer	0.009
15	14	Si	1450	32	8	No	Completo	Hombre	0.025
16	15	Si	1410	31	7	No	Completo	Mujer	0.026
17	16	Si	1470	34	9	No	Ninguno	Hombre	0.025
18	17	Si	1440	32	8	No	Completo	Hombre	0.026

Indicador	Valor
Número de RN Ingresados	89
Muertes Observadas	22
Muertes Esperadas	28,04
Observado/Esperado	0,785
Intervalo de Confianza O/E	
Limite Inferior	0,49
Limite Superior	1,19

Conclusión

Su centro tiene mortalidad ajustada por riesgo inferior al promedio de Neocosur

Sin embargo este resultado no es estadisticamente significativo


2,5
2
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HUA

Evaluación del impacto de la hospitalización neonatal en los padres de recién nacidos prematuros

PS. FRANCISCA WORMALD L.
PS. BERNARDITA REYES M.

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HOSPITAL CLÍNICO UNIVERSIDAD CATÓLICA DE CHILE

2009

Objetivos

Describir la realidad de diferentes países.

Comparar resultados entre unidades de servicios públicos en relación a privados.
Comparar resultados según tamaño y volumen de pacientes entre unidades.
Comparar resultados según nivel educacional de los padres.
Comparar resultados entre madres y padres.

Herramienta

- **PSS: NICU (Parental Stressor Scale: Neonatal Intensive Care Unit):**
- Encuesta diseñada para determinar la auto-percepción de
- estrés asociada a la experiencia de tener un hijo RN
- hospitalizado en UCI
- Apariencia y conducta del niño
- Alteración del rol parental
- Las luces y sonidos del ambiente
- Comunicación con el personal de salud.
- Puede ser respondida en 5 a 10 minutos.
- Esta validada su versión en español.

P.A.S. meeting, San Francisco 2006

TREATMENT WITH ERYTHROPOIETIN AND INCIDENCE OF RETINOPATHY OF PREMATURITY IN EXTREMELY LOW BIRTH WEIGHT INFANTS

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Abstract

Background. Erythropoietin (EPO) has several important non-erythropoietic effects, including a similar angiogenic effect as vascular endothelial growth factor (VEGF). Treatment with EPO has been recently implicated in the pathogenesis of retinopathy of prematurity (ROP).

Objective. Evaluate if treatment with EPO is independently associated with incidence and/or severity of ROP in a cohort of high risk ELBW infants.

Design/Methods. Data from the continuous registry of the Neocosur Collaborative Network (16 tertiary centers from Argentina, Chile, Paraguay, Peru and Uruguay) was utilized selecting all surviving infants with birth weights between 500 and 1000 grams. Univariate analysis was done for the association of multiple risk factors with the presence of any degree of ROP and ROP grade ≥ 3. Stepwise logistic regression was performed for both outcomes correcting for gestational age and for each center's percent mortality (due to the high variation, range 21-82 %). Goodness of fit was assessed with Hosmer and Lemeshow test.

Results. Six hundred and sixty seven infants were entered in the analysis. The incidence of ROP and ROP grade 3 were 54% (363) and 17% (114) respectively. For all centers EPO was used in 29% (range 0-40%) of surviving infants.

Multiple logistic regression showed the following significant associations with ROP (Odds ratio and 95%CI): EPO 2.70 (1.20-3.33), prenatal antibiotics (ATB) 1.59 (1.10-2.31), prenatal steroids 0.45 (0.28-0.74), need for ventilatory support 1.85 (1.14-3.00) and late onset sepsis (LOS) 1.50 (1.03-2.18) and the following with ROP grade ≥ 3: EPO 2.00 (1.20-3.33), male sex 1.92 (1.19-3.08), ATB 1.67 (1.03-2.72), respiratory distress syndrome 4.77 (1.41-16.06), LOS 2.25 (1.38-3.69), each day of oxygen therapy 1.01 (1.00-1.02). The variable days of mechanical ventilation which was highly significant in univariate analysis was excluded from the logistic regression due to high proportion of missing data. Both models adjusted well in Hosmer and Lemeshow test (p=0.86 for ROP and p=0.81 for ROP grade 3).

Conclusions. Our results show that treatment with EPO independently increases the risk of ROP and severe ROP in high risk ELBW infants. The potential for this adverse effect should be included in the risk-benefit analysis when considering EPO treatment for anemia of prematurity.

Background

Recent evidence has highlighted that Erythropoietin (EPO) has several important non-erythropoietic effects including a similar angiogenic effect as vascular endothelial growth factor (VEGF). In spite of insufficient evidence regarding long term outcomes, EPO has been extensively used in VLBW infants to decrease transfusion requirement. Angiogenesis is a prominent feature in the pathogenesis of retinopathy of prematurity (ROP) and recently animal models have pointed towards a potentially important role for EPO in the series of events that, triggered by hyperoxia, ultimately lead to abnormal vascularization of the retina. Treatment with rhEPO has also been associated with the occurrence of ROP.

Objective

Evaluate if treatment with EPO is independently associated with incidence and/or severity of ROP in a cohort of high risk ELBW infants from a collaborative network in South America.

Methods

- Data from the continuous VLBW infant registry of the Neocosur Collaborative Network comprised by 16 tertiary centers from Argentina (7), Chile (6), Paraguay (1), Perú (1) and Uruguay (1) was utilized.
- Data from each patient was prospectively collected online on a pre-determined form.
- Survivors with birthweight between 500 and 1000 grams were selected.
- Univariate analysis was performed looking for the association of multiple known and potential risk factors with the presence of any degree of Retinopathy of Prematurity (ROP) and ROP grade ≥ 3.
- To analyze the independent contribution of the selected variables, a stepwise logistic regression was then performed for both outcomes correcting for gestational age and for each center's percent mortality (due to the high variation, range 21-82 %). Goodness of fit was assessed with Hosmer and Lemeshow test.
- Statistical analysis was performed with SAS 9.0.

Results

Data from 1585 patients with birth-weights between 500-1000 grams was available for analysis. Mortality was 49% but there was substantial inter-center variability: Median 60% range 21-82%

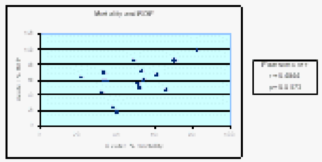
Inter-center variability was also present for use of EPO and for ROP (overall/median/range)

EPO 29% / 33 (0-93%)

ROP 54% / 43.6 (18-86%)

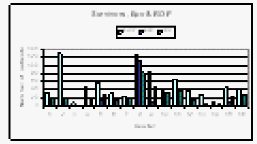
ROP≥3 17% / 19 (3-33%)

Figure 1: Correlation between center mortality and center ROP%.



Results

Figure 2: Number of surviving infants, use of EPO and ROP for each center.



From 815 survivors, a total of 667 infants were entered in the multivariate analysis due to missing data. Table 1 shows the univariate association of multiple risk factors with any degree of ROP. Table 2 shows the association with ROP ≥ 3.

Table 1: ROP

Variables	OR	95% CI		p value	Missing
Birth weight	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gest. Age	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sex	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Maternal HT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APGAR 1 < 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APGAR 5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Prenatal antibiotics	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Prenatal steroids	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Intestinal perforation	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Air leak	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ventilatory support	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RDS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DUCTUS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IVH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IVH grades 3 & 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Early onset sepsis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Late onset sepsis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BPD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
O2 @ 36 weeks	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Days on O2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Days on MV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Erythropoietin use	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Surfactant	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indomethacin use	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Number of transfusions	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 2: ROP ≥ 3

Variables	OR	95% CI		p value	Missing
Birth weight	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gest. Age	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sex	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Maternal HT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APGAR 1 < 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APGAR 5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Prenatal antibiotics	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Prenatal steroids	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Intestinal perforation	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Air leak	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ventilatory support	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RDS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DUCTUS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NEC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IVH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IVH grades 3 & 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Early onset sepsis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Late onset sepsis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BPD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
O2 @ 36 weeks	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Days on O2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Days on MV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Erythropoietin use	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Surfactant	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indomethacin use	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Number of transfusions	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Multiple logistic regression showed the following significant associations with ROP (Table 3) and with ROP ≥3 (Table 4). The variable days of mechanical ventilation which was highly significant in univariate analysis was excluded due to high proportion of missing data.

Results

Table 3: Logistic Regression for ROP

	OR	CI 95%
Erythropoietin	2.7	1.20-3.33
Prenatal antibiotics	1.59	1.10-2.31
Prenatal steroids	0.45	0.28-0.74
Ventilatory support	1.85	1.14-3.00
Late onset sepsis	1.5	1.03-2.18

Table 4: Logistic Regression for ROP ≥ 3

	OR	CI 95%
Erythropoietin	2.00	1.20-3.33
Prenatal antibiotics	1.67	1.03-2.72
Male sex	1.92	1.19-3.08
RDS	4.77	1.41-16.06
Oxygen (each day)	1.01	1.00-1.02
Late onset sepsis	2.25	1.38-3.69

Both models adjusted well in Hosmer-Lemeshow test (p=0.86 for ROP and p=0.81 for ROP≥3. Goodness of fit was best when including center % mortality in the model.

Discussion

Our results show that treatment with EPO independently increases the risk for ROP and severe ROP in high risk ELBW infants. The potential for this adverse effect should be included in the risk-benefit analysis when considering EPO treatment to reduce transfusion requirement in this population.

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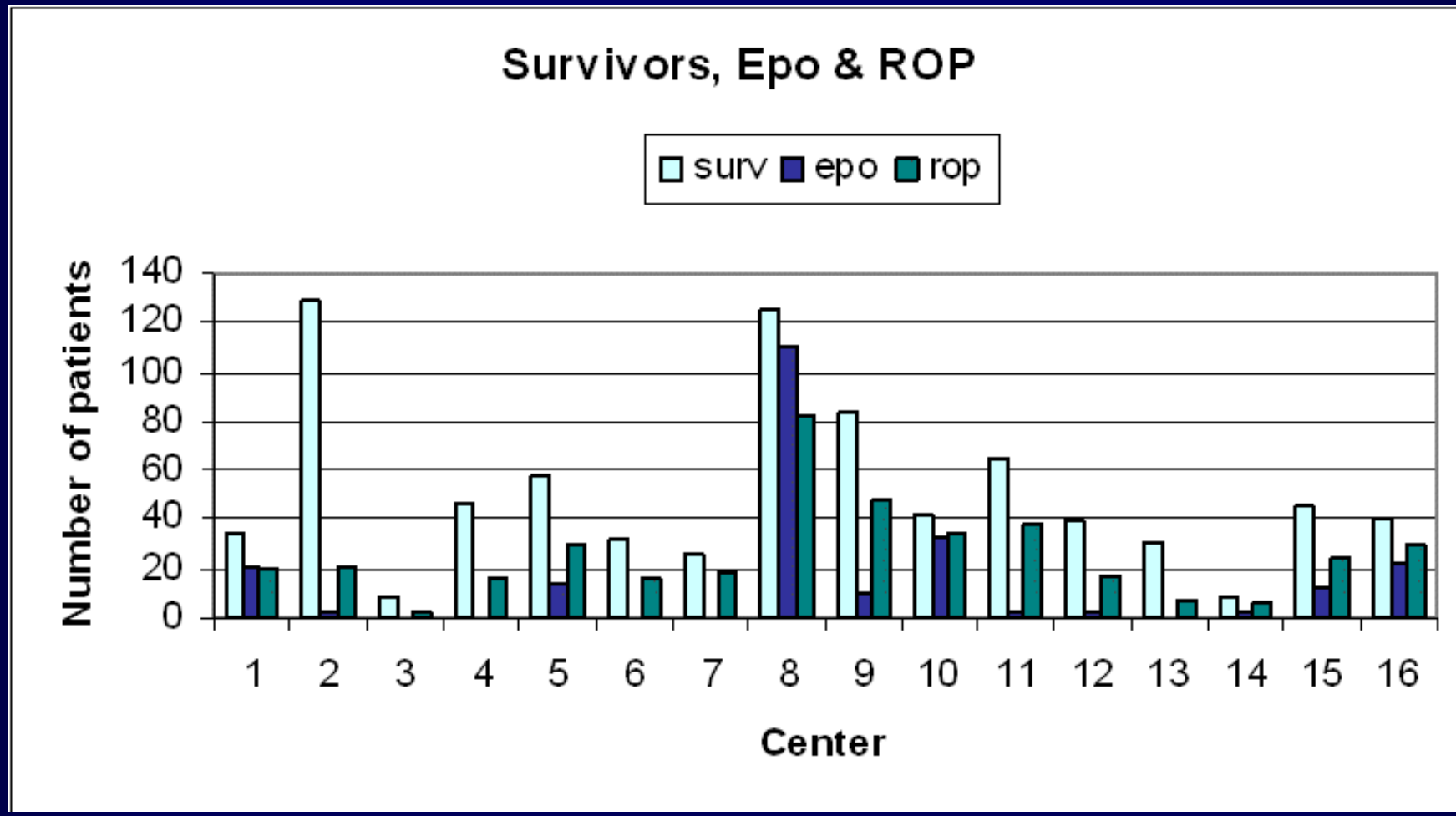
NEOCOSUR: http://sistemas.med.puc.cl/Neocosur/neocosur.asp


Survivors, Epo & ROP
surv
epo
rop
Number of patients
140
120
100
80
60
40
20
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Center

Resultados

<1000g

OR para ROP (regresion logistica sw)

	OR (IC95%)
EPO	**2.70(1.20-3.33)**
ATB prenatales	1.59 (1.10-2.31)
Soporte vent	1.85 (1.14-3.00)
Cort. prenatales	0.45 (0.28-0.74)
Sepsis tardía	1.50(1.03-2.18)

Resultados

<1000g

OR para ROP ≥ 3 (regresion logistica sw)

	OR (IC95%)
EPO	**2.00 (1.20-3.33)**
ATB prenatales	1.67 (1.03-2.72)
SDR	***4***.77 (1.41-16.06)
Día de O2	***1.01*** (1.00-1.02)
Sepsis tardía	***2.25*** (1.38-3.69)

Presented in PAS Hawaii 2008

Mortality in the DR as proxy of intention to treat in the DR

- Data from 887 infants between 500 and 749 g at birth. Overall mortality was 68.4% and DDR 16.7%.

Differing Practices Regarding Resuscitation and Treatment of Extremely Premature Infants in a South American Neonatal Network (Neocosur)

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Abstract

BACKGROUND: Variable resource availability and outcomes are frequent in South American health systems. Our network is an example of variability in neonatal outcomes. Variations in physician practices in the delivery room (DR) affect the care offered to infants at the threshold of viability. Approaches to resuscitation and care of these infants have been incompletely characterized in developing countries where resource allocation is uneven. Most of the knowledge in this subject comes from surveys that may not reflect entirely what actually happens in the DR.

OBJECTIVE: 1) Describe the practices in resuscitating and treating extremely preterm infants in our network comparing center differences. 2) Evaluate if there is a common rationale underlying decision making in the DR for this population.

DESIGN/METHODS: Data from the continuous registry of the Neocosur Collaborative Network (16 tertiary centers from Argentina (7), Chile (6), Paraguay (1), Peru (1) and Uruguay (1)) was utilized selecting infants <750 grams at birth. The variable died in delivery room (DDR) was utilized as a surrogate for not initiating treatment. Proportions were compared with chi2 or Fisher's test as appropriate. Pearson correlation was performed to evaluate the association of continuous variables with DDR.

RESULTS: We analyzed data from 887 infants between 500 and 749g at birth. Mortality was 68.4% and DDR 16.7%. The latter was highly variable between centers with a median of 5.5% (range 0-36). When comparing the 11 public with the 5 private centers, we found substantial differences in mortality (73 vs. 52%) and DDR (20 vs. 2.4%), both p<0.001. However, DDR was highly variable in the public sector. When public hospitals from Chile (4), Argentina (4) and other (3) were compared, we found significant differences in mortality (63 vs. 78 vs. 89% respectively) and DDR (30 vs. 12 vs. 7% respectively). We did not find a significant correlation between DDR and mortality.

CONCLUSIONS: In the Neocosur Neonatal Network, thresholds for resuscitation and care of extremely premature infants are non uniform and appear mostly determined by resource availability. Moreover, this heterogeneity is higher in the public sector with a more rational and uniform approach for centers in Chile. Mortality does not appear to influence willingness to treat uniformly in our network.

Background

Variable resource availability and outcomes are frequent in South American health systems. This is the case of our Neonatal Network composed of 16 centers in 4 South American countries. Variations in physician practices in the delivery room are substantial and affect the care offered to infants at the threshold of viability. The attitude towards resuscitating and treating ELBW infants may be shaped by published guidelines and general medical culture or determined by the expected outcomes. It could also influence perinatal management thereby also affecting these same outcomes. Attitudes towards resuscitation and treatment of infants at the threshold of viability have been incompletely characterized in developing countries where economic restriction and inequality make resource allocation uneven. Most of the knowledge in this respect comes from surveys that sometimes may not reflect entirely what happens in the delivery room. In most Latin American countries there are no clear standards for appropriate levels of intervention and limiting resuscitation and delivery room practices have not been characterized.

Objective

1) Describe the practices in resuscitating and treating extremely preterm infants in our network comparing center differences. 2) Evaluate if there is a common rationale underlying decision making in the DR for this population.

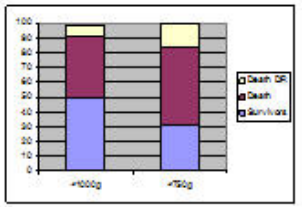
Methods

Data from the continuous registry of the Neocosur Collaborative Network (16 tertiary centers from Argentina (7), Chile (6), Paraguay (1), Peru (1) and Uruguay (1)) was utilized selecting infants <750 grams at birth. The variable died in delivery room (DDR) after excluding those who were unsuccessfully resuscitated in the DR was utilized to select patients in whom treatment was not initiated. To account for missing data patient records in which the 5' Apgar score was ≤ 1 and delivery room resuscitation did not include endotracheal intubation were also included. Proportions were compared with chi$_2$ or Fishers test as appropriate. Pearson correlation was performed to evaluate the association of continuous variables with DDR.

Results

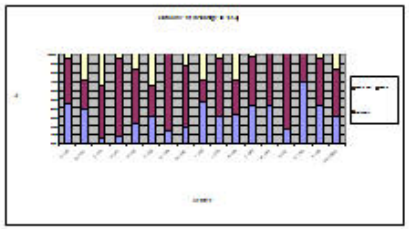
We analyzed data from 887 infants between 500 and 749 g at birth. Overall mortality was 68.4% and DDR 16.7%. The latter, reflecting the intention to resuscitate, was unevenly distributed between centers with a median of 5.5% (range 0-36).

Figure1. Outcome at discharge for ELBW and < 750g at birth



Results

Figure2. Outcome at discharge by center for < 750g

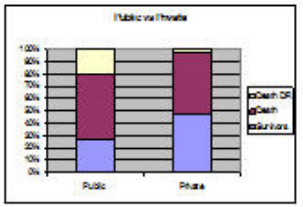


When comparing the 11 public with the 5 private centers (A,L,M,P and O in the figure above, n=168) we found substantial differences in mortality (73 vs. 52%) and DDR (20 vs. 2.4%), both p<0.001.

However, DDR was highly variable in the public sector and within this sector in between countries. When public hospitals from Chile (4), Argentina (4) and other (3) were compared, we found significant differences in mortality (63 vs. 78 vs. 89% respectively) and DDR (30 vs. 12 vs. 7% respectively)

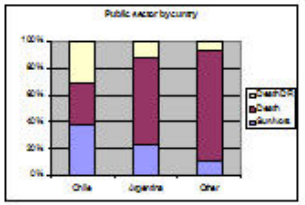
We did not find a significant correlation between each center's DDR and neither mortality nor patient number .

Figure3. Outcome at discharge by sector



Results

Figure3. Outcome at discharge in public sector



Conclusions

Our results show that in the Neocosur Neonatal Network, thresholds for resuscitation and care of extremely premature infants are not uniform. The clear difference between public and private sectors could be accounted to differences in resource availability. However, a great heterogeneity is present in the public sector with what appears to be a more rational and uniform approach for centers in Chile. Our database has allowed us to select those patients between 500-750 at birth that died in the delivery room without resuscitation. In spite of frequent reminders and recommendations to enter these patients to the database and the continuous monitoring of the expected enrollment for each center, there's a chance that a small number of them were missed. Acknowledging this potential limitation our results still allow us to conclude that mortality and outcomes do not appear to influence willingness to treat uniformly in our network. The diffusion of guidelines could help avoid the possibility of both under and over treatment in this population.

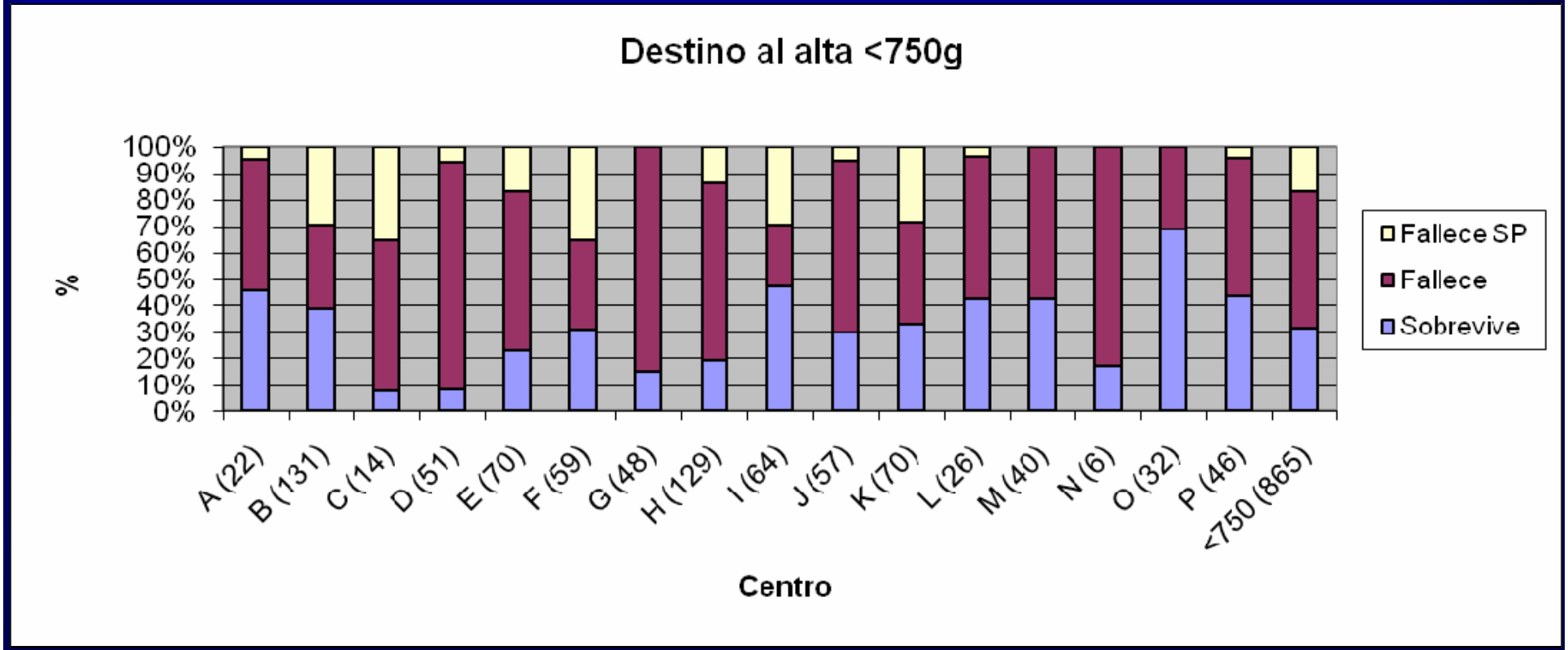
Acknowledgements

...k in the ...laborators

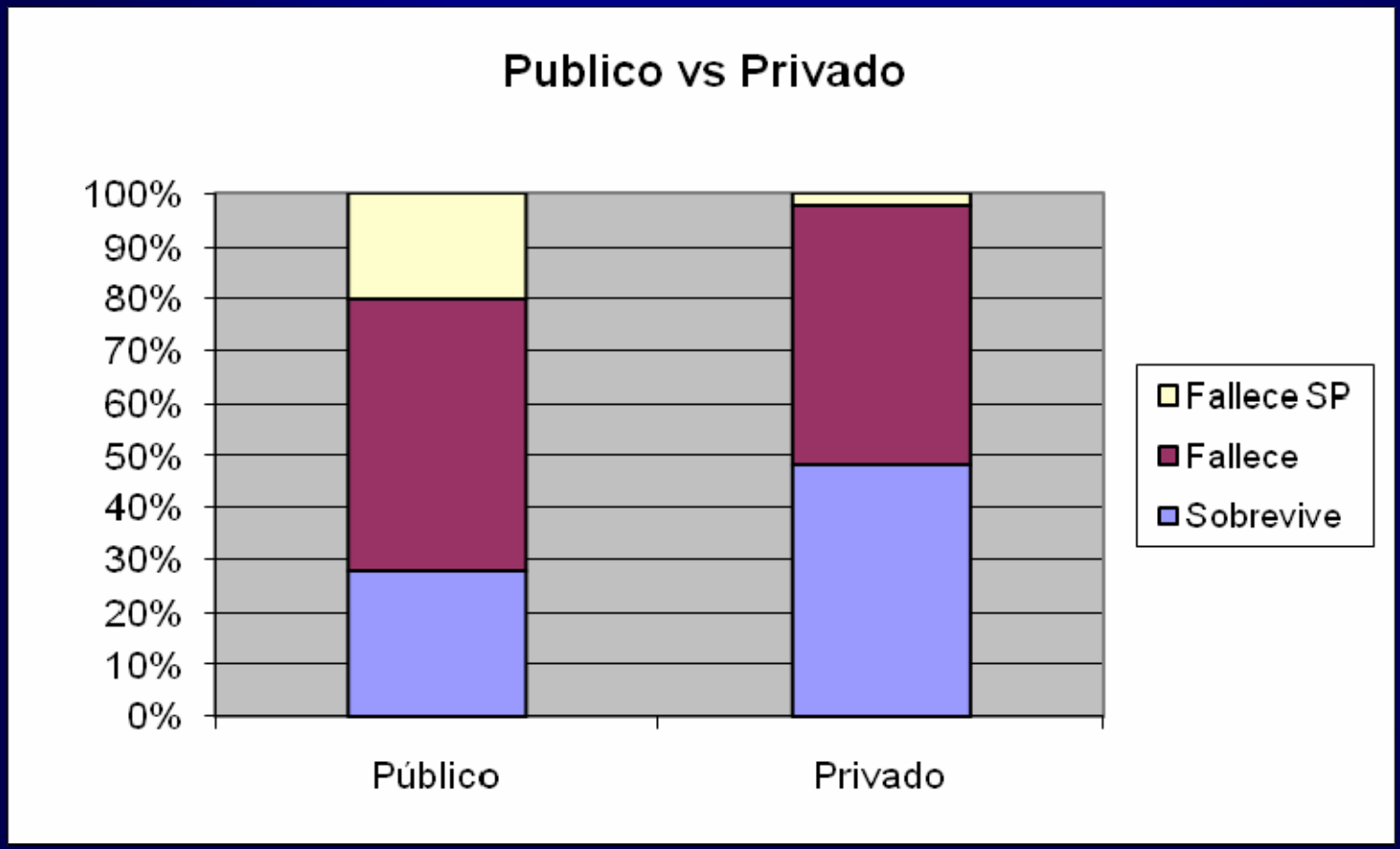
Disclosure: No conflicts of interest to disclose

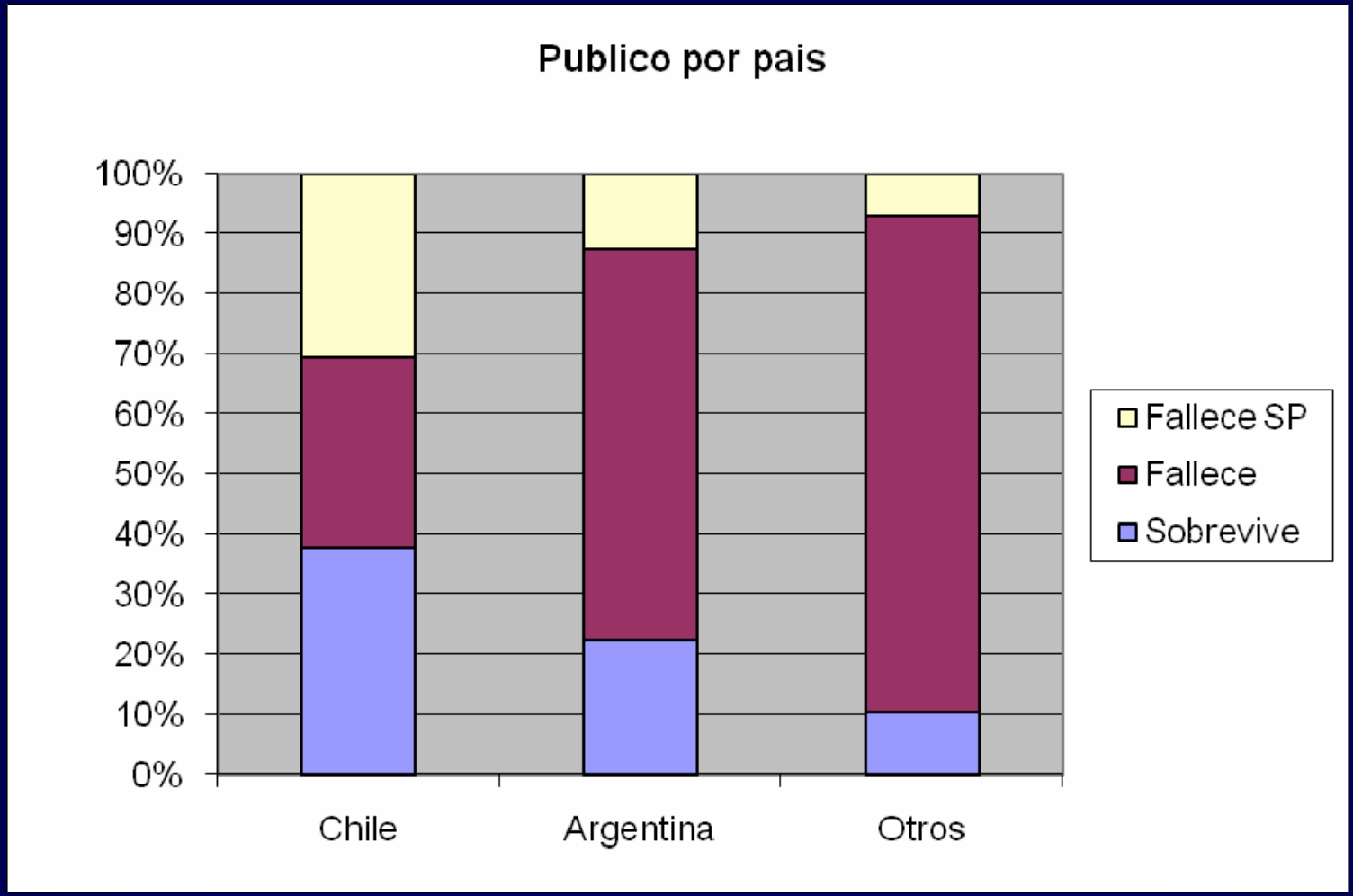
-There was great diference in mortality between centers.

- intention to resuscitate, was unevenly distributed between centers with a median of 5.5% (range 0-36).



When comparing public (11) with private (5) centers (n=166) there were substantial differences in mortality (73 vs. 52%) and DDR (20 vs. 2.4%), both p<0.001.





DDR was highly variable in the public sector and within this sector in between countries. When public hospitals from Chile (4), Argentina (4) and other (3) were compared, there were significant differences in mortality (63 vs. 78 vs. 89% respectively) and DDR (30 vs. 12 vs. 7% respectively)

INVESTIGACIÓN EN LA RED NEOCOSUR
Perspectivas

Seguir adelante con: mejora de registros, publicaciones y estudios pendientes, incrementar % de publicación de trabajos presentados, encontrar fuentes de financiación, apuntar a intereses regionales, más y mejores RCT, articular con sector oficial…

Incrementar la participación de diferentes centros

Nuevos registros prospectivos

Iniciativas para la mejora de calidad

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