

Transplante renal – onde estamos e onde queremos chegar?

Conflito a declarar: nenhum

Paulo Koch Nogueira – pckoch@uol.com.br

www.conepmt.com.br

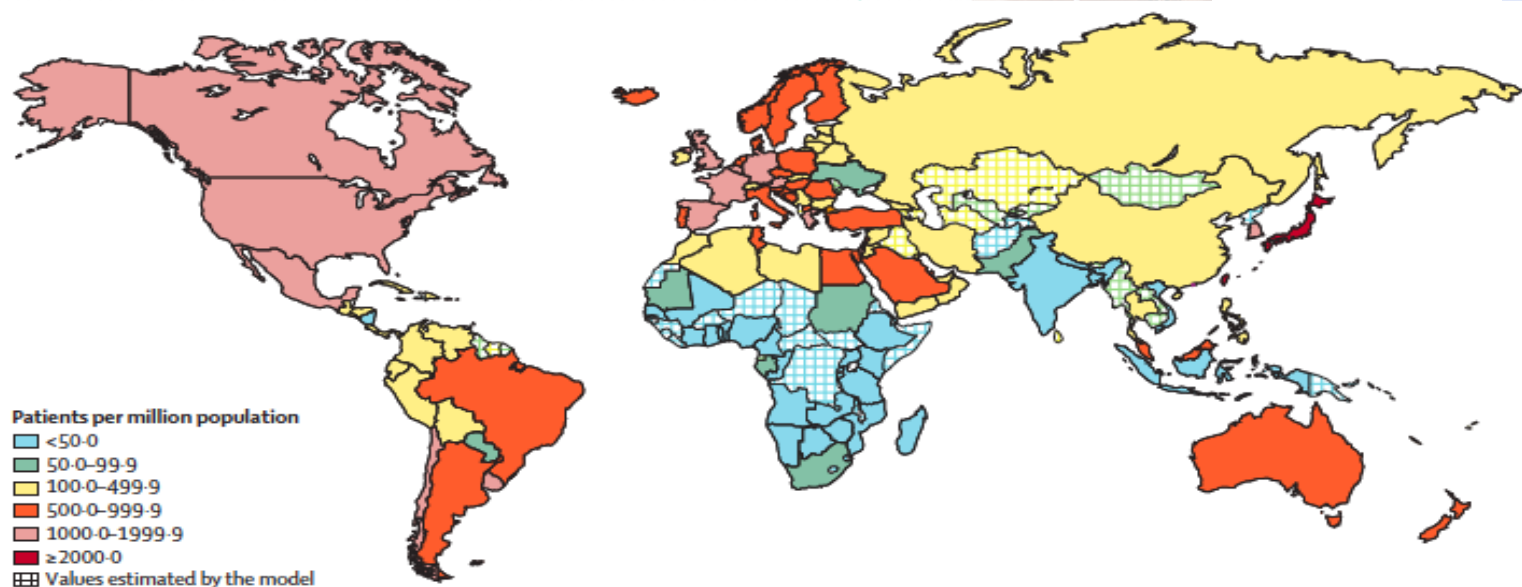


IPNA TEACHING
COURSE

Worldwide access to treatment for end-stage kidney disease: a systematic review

Thaminda Liyanage*, Toshiharu Ninomiya*, Vivekanand Jha, Bruce Neal, Halle Marie Patrice, Ikechi Okpechi, Ming-hui Zhao, Jicheng Lv, Amit X Garg, John Knight, Anthony Rodgers, Martin Gallagher, Sradha Kotwal, Alan Cass, Vlado Perkovic

Lancet 2015; 385: 1975-82



www.conepmt.com.br

3² CONEP-MT
Congresso de Nefrologia
Pediatrica de Mato Grosso
Da embriogênese ao transplante



IPNA TEACHING
COURSE

Worldwide access to treatment for end-stage kidney disease: a systematic review

Thaminda Uyanage*, Toshikazu Ninomiya*, Vivekanand Jha, Bruce Neal, Hafe Marie Patrice, Ikechi Okpechi, Ming-hui Zhao, Jicheng Lv, Amit X Garg, John Knight, Anthony Rodgers, Martin Gallagher, Sradha Kotwal, Alan Cass, Vlado Perkovic

Lancet 2015; 385: 1975–82

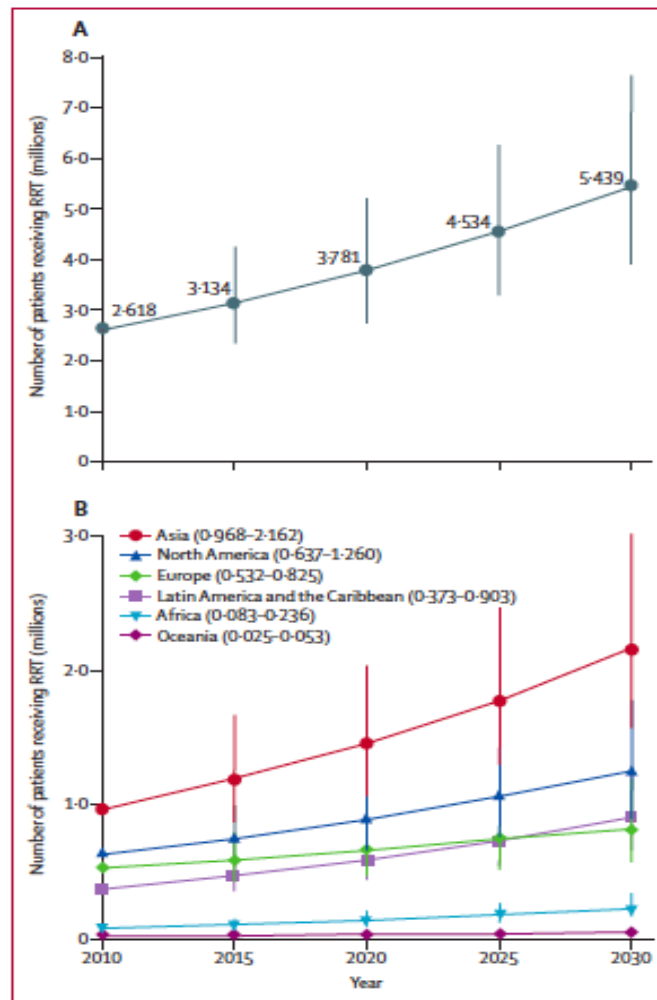


Figure 5: Estimated number of patients undergoing RRT from 2010 to 2030 worldwide (A) and by region (B)

95% CIs shown as error bars. RRT—renal replacement therapy.



Pediatric Chronic Dialysis in Brazil: Epidemiology and Regional Inequalities

Tulio Konstantyner^{1,2*}, Ricardo Sesso^{1,3}, Maria Fernanda de Camargo¹, Luciana de Santis Feltran¹, Paulo Cesar Koch-Nogueira^{1,2}

1 Sociedade Hospital Samaritano, Sao Paulo, Brazil, **2** Pediatric Division, Federal University of Sao Paulo, Sao Paulo, Brazil, **3** Nephrology Division, Federal University of Sao Paulo, Sao Paulo, Brazil

PLOS ONE | DOI:10.1371/journal.pone.0135649 August 18, 2015

Table 1. Absolute numbers, incidence and prevalence rates of cases of pediatric end-stage renal disease on chronic dialysis treatment—Brazil and regions, 2012.

Geographic area	I	(95% CI)	N (%)	P	(95% CI)	N (%)
Brazil	6.6	(4.8–8.4)	424 (100)	20.0	(14.8–25.3)	1283 (100)
North-Midwest	5.5	(2.2–8.8)	64 (15.1)	13.8	(6.2–21.4)	161 (12.6)
Northeast	3.8	(1.4–6.3)	75 (17.7)	16.4	(4.6–28.1)	319 (24.9)
Southeast	7.9	(4.3–11.5)	192 (45.3)	23.3	(14.3–32.3)	569 (44.3)
South	11.1	(2.8–19.3)	93 (21.9)	27.7	(7.3–48.1)	234 (18.2)

I: Annual incidence per million aged compatible population (2012) P: Prevalence per million aged compatible population; CI: Confidence Interval; N: Absolute number of cases.

Prevalência geral = 539 casos por milhão (105.000 casos)

Prevalência pediatria = 20 casos por milhão (1.300 casos)

Incidência pediatria = 6,6 casos novos por milhão/ano (400 casos)

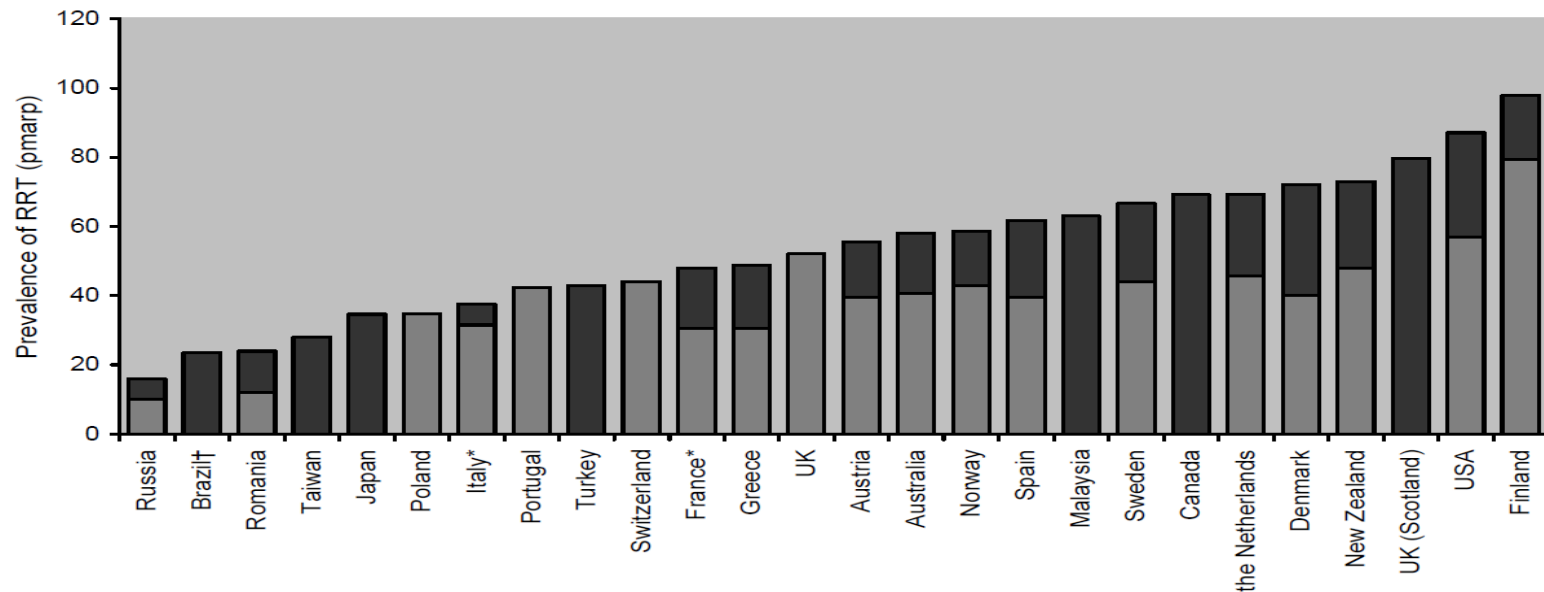
Prevalência da Diálise Pediátrica no Mundo (pmhab<19 anos)

Epidemiology of chronic kidney disease in children

Pediatr Nephrol (2012) 27:363–373

Jérôme Harambat^{1,2}, Karlijn J. van Stralen¹, Jon Jin Kim³, E. Jane Tizard³

Figure 2. Prevalence of RRT in children on 31 December 2008 by country. The light bar corresponds to the prevalence in children aged 0-14 years, the sum of the light and the dark bars corresponds to the prevalence in children aged 0-19 years.



* France 16 of 26 regions, Italy 13 of 20 regions, Spain 4 of 18 regions in the 15-19 years old age group; † State of Sao Paulo

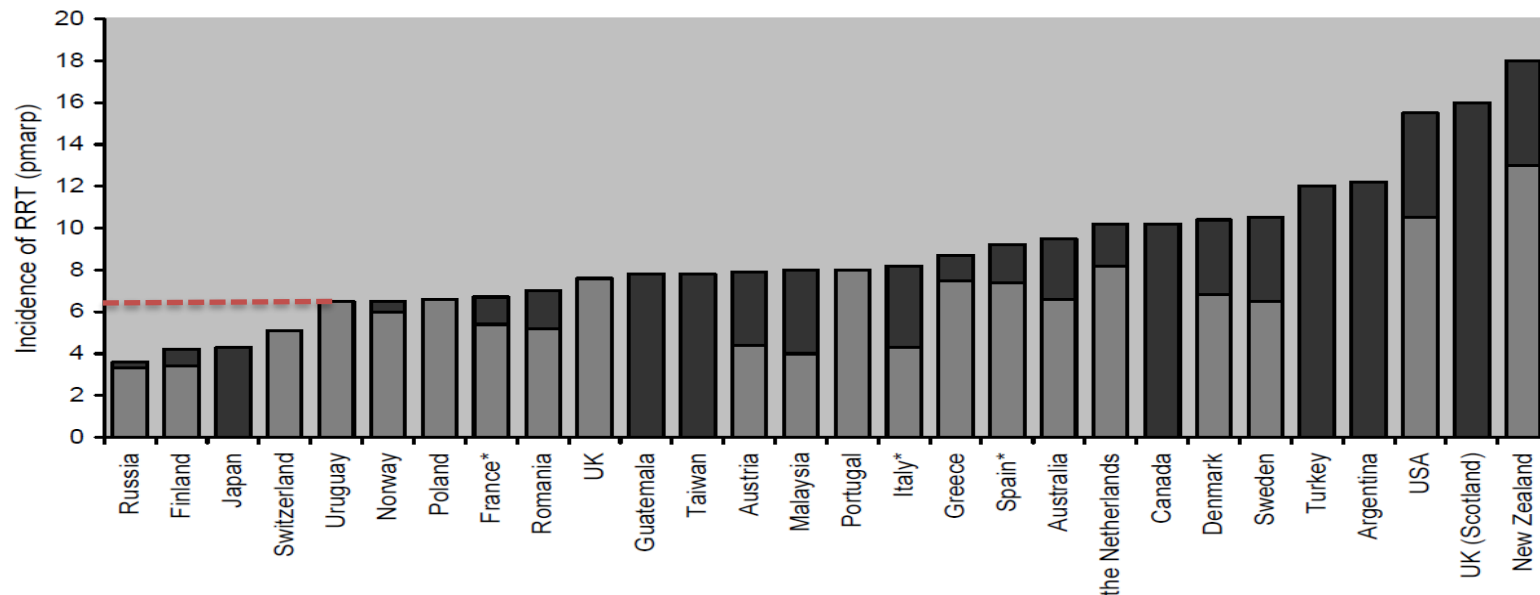
Incidência da Diálise Pediátrica no Mundo (pmhab<19 anos)

Epidemiology of chronic kidney disease in children

Pediatr Nephrol (2012) 27:363–373

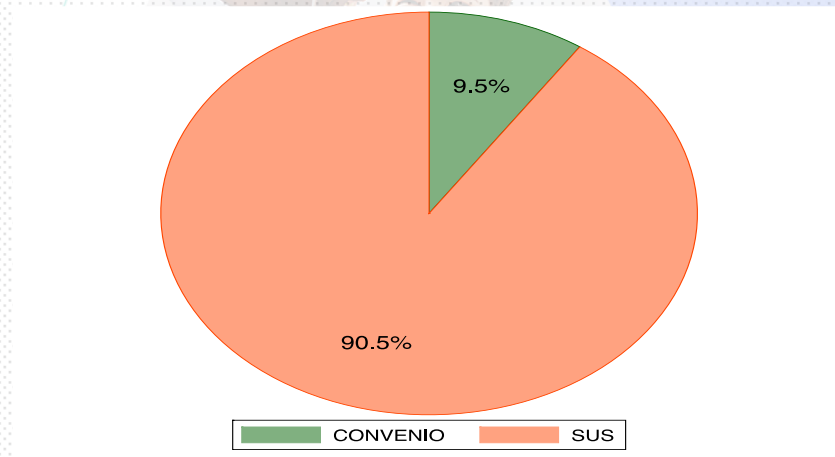
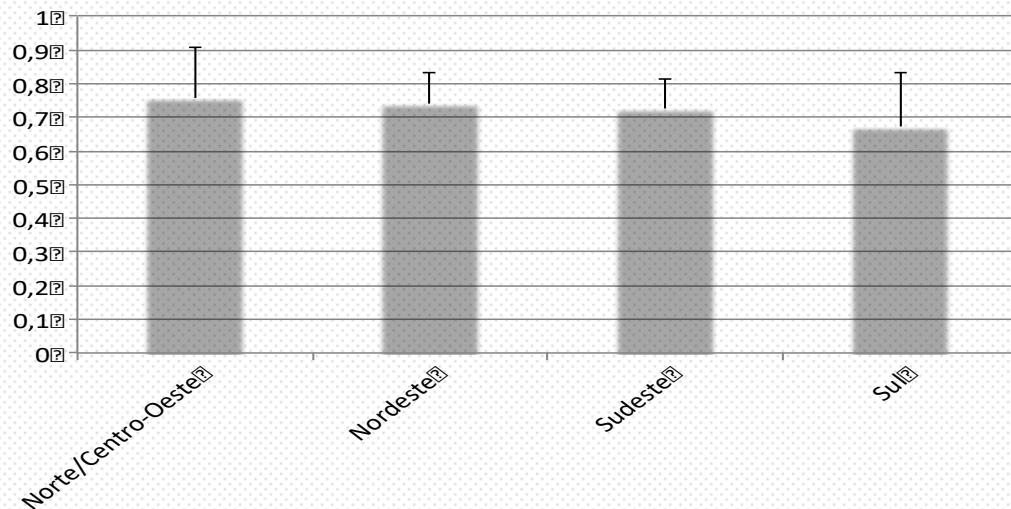
Jérôme Harambat^{1,2}, Karlijn J. van Stralen¹, Jon Jin Kim³, E. Jane Tizard³

Figure 1. Incidence of RRT in children in 2008 by country. The light bar corresponds to the incidence in children aged 0-14 years, the sum of the light and the dark bars corresponds to the incidence in children aged 0-19 years.



* France 16 of 26 regions, Italy 13 of 20 regions, Spain 4 of 18 regions in the 15-19 years old age group

Tipo de diálise e fonte de pagamento



Etiologia da DRC por região do Brasil

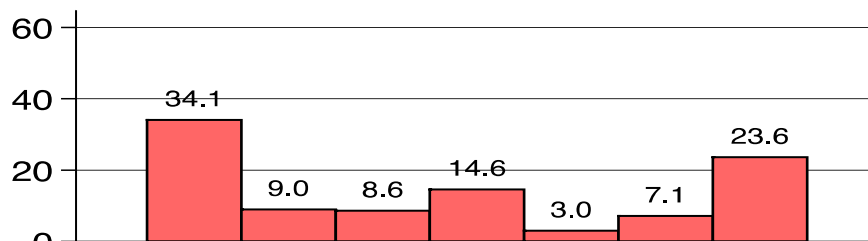
Norte/Centro-Oeste



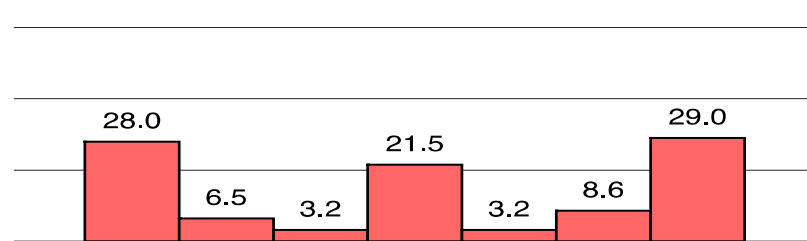
Nordeste



Sudeste



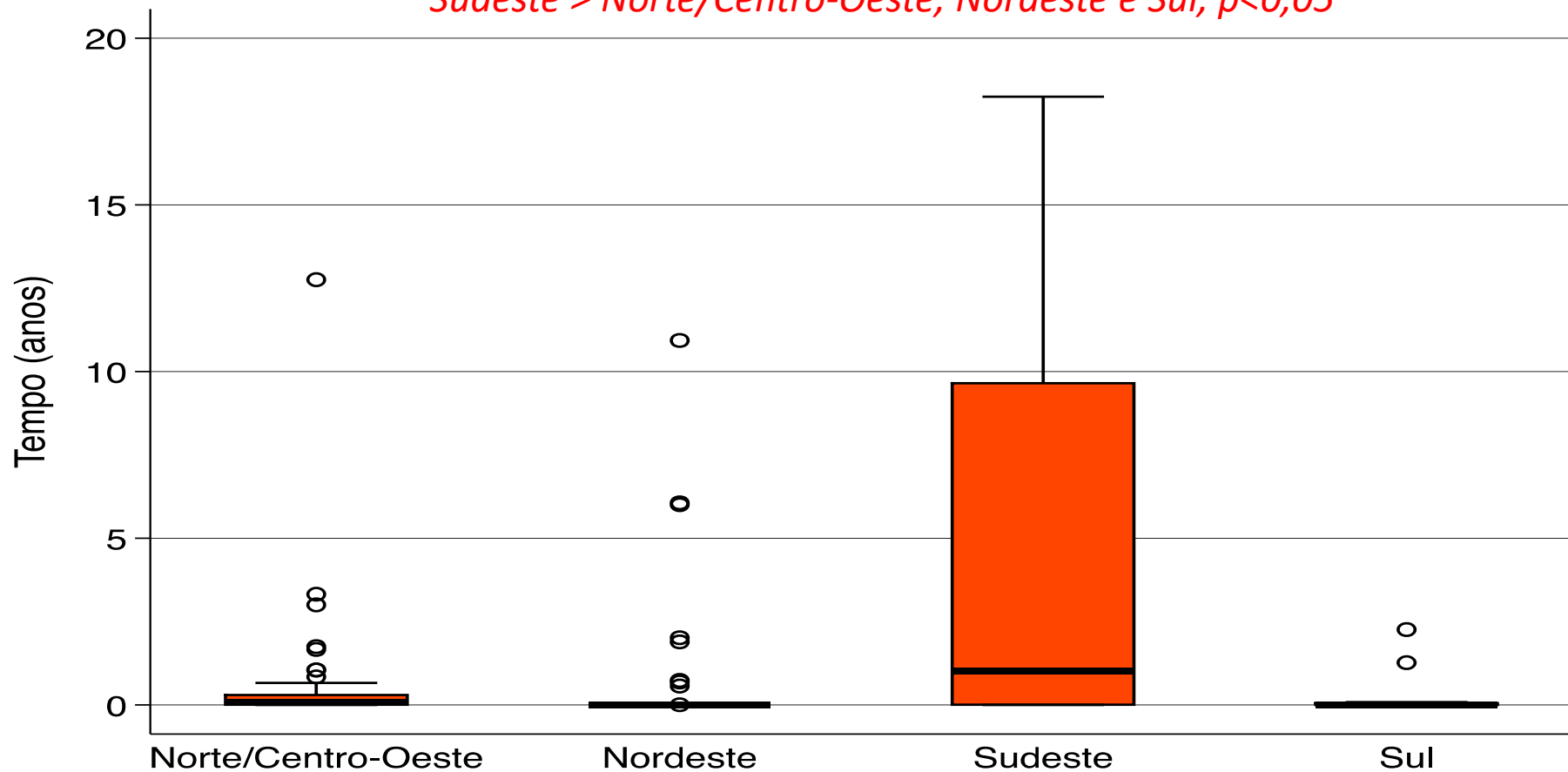
Sul



$p = 0.0246$

Tempo entre o diagnóstico de DRC e primeira diálise

Sudeste > Norte/Centro-Oeste, Nordeste e Sul, $p < 0,05$



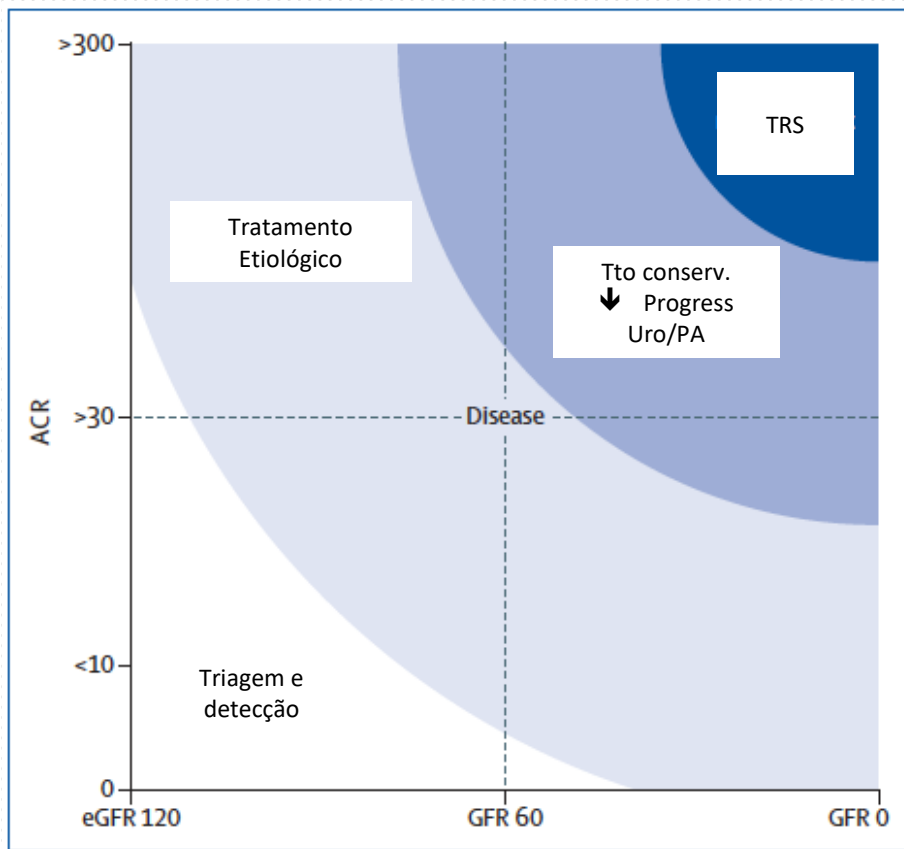


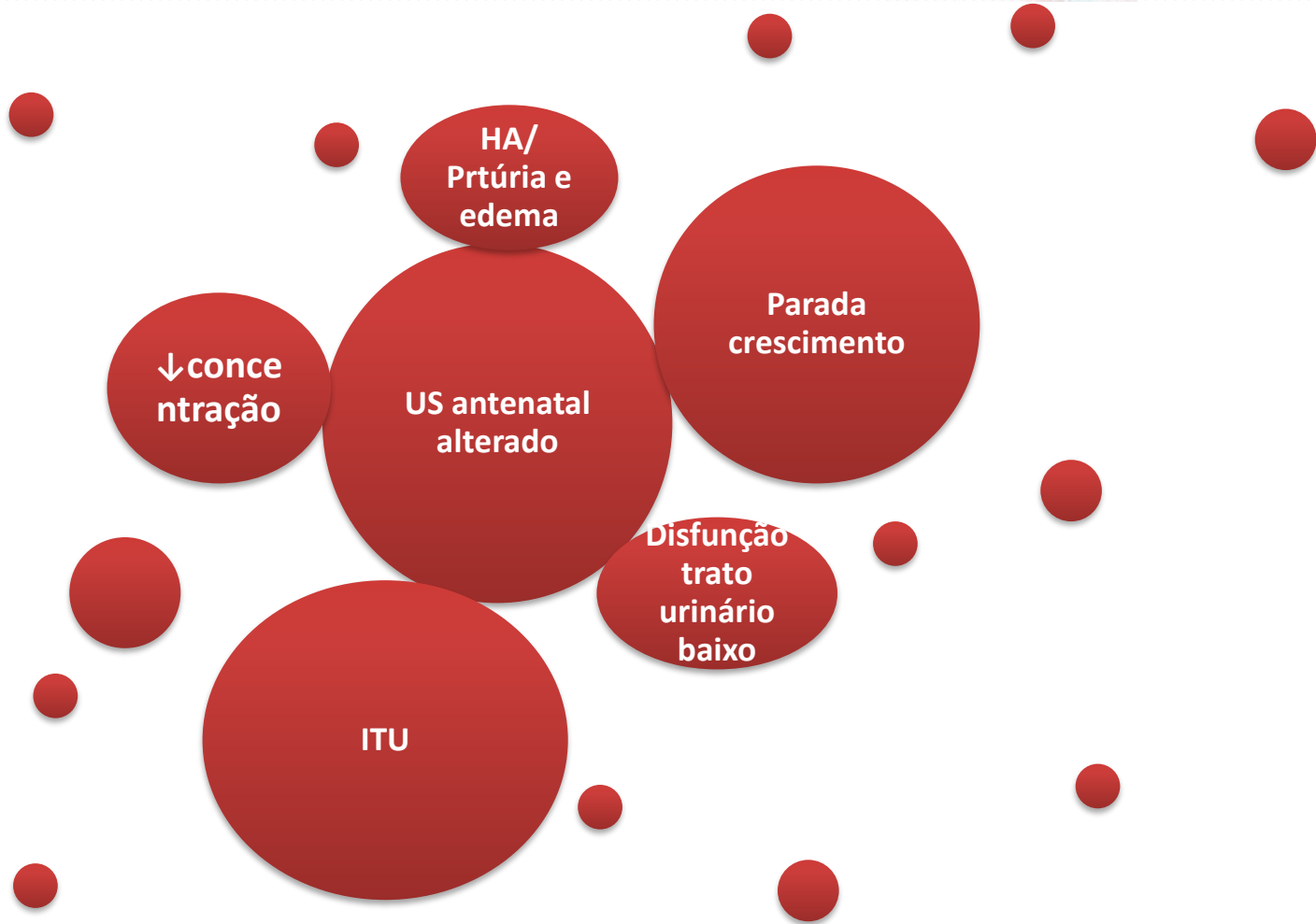
Figure: Screening and detection of CKD using estimated GFR (from measured serum creatinine) and the spot urine ACR with the identification of cardiovascular risk before progression of CKD

GFR=glomerular filtration rate. ACR=albumin:creatinine ratio. CKD=chronic kidney disease.



www.conepmt.com.br

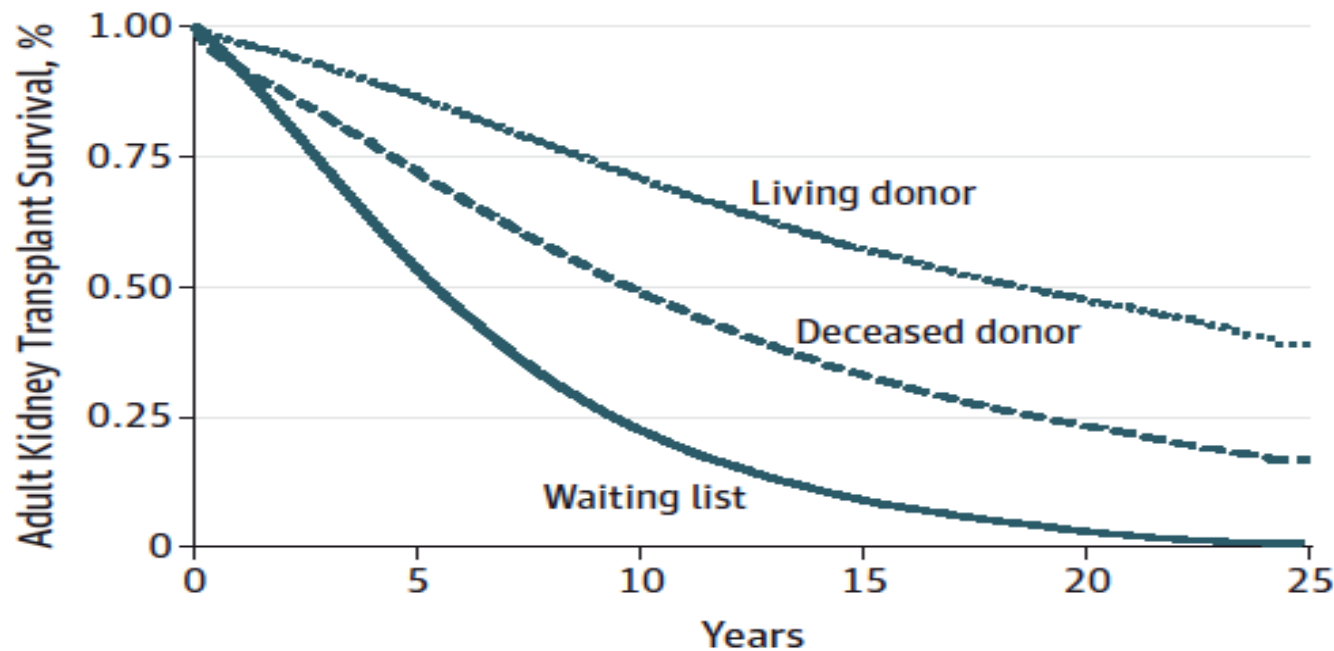




Survival Benefit of Transplant in the US

JAMA Surg. doi:10.1001/jamasurg.2014.2038
Published online January 28, 2015.

A Adult kidney transplantation



No. at risk

Waiting list	239 162	43 202	7 083	1 472	275	32
Deceased donor	148 292	74 561	27 850	8 576	1 859	16
Living donor	87 387	50 125	19 255	5 275	1 115	8

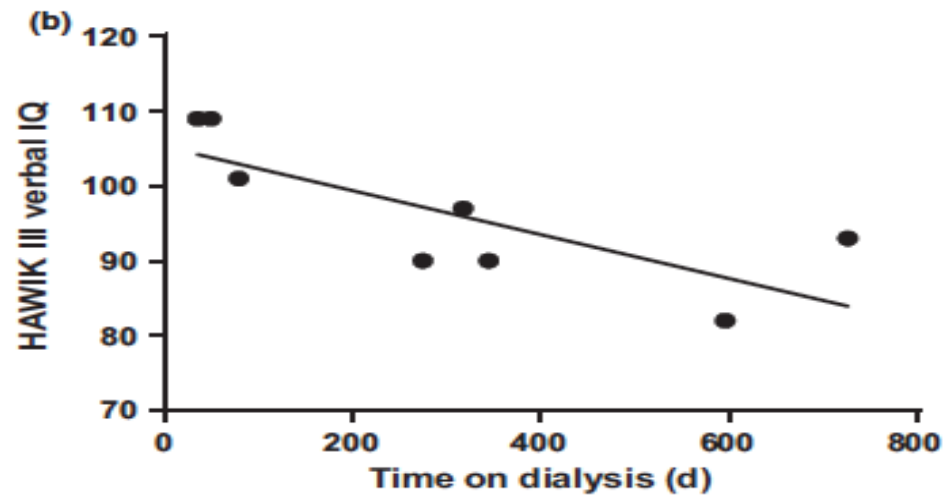
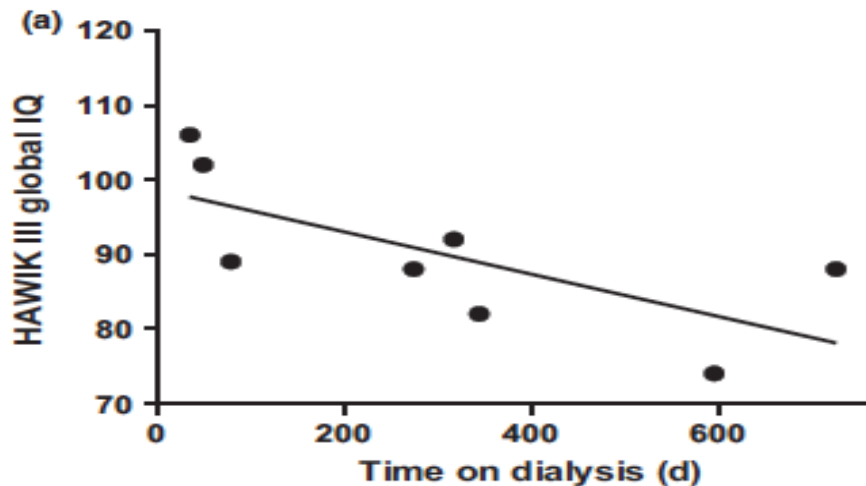
Desfecho: desenvolvimento mental

ORIGINAL ARTICLE

Early kidney transplantation improves neurocognitive outcome in patients with severe congenital chronic kidney disease

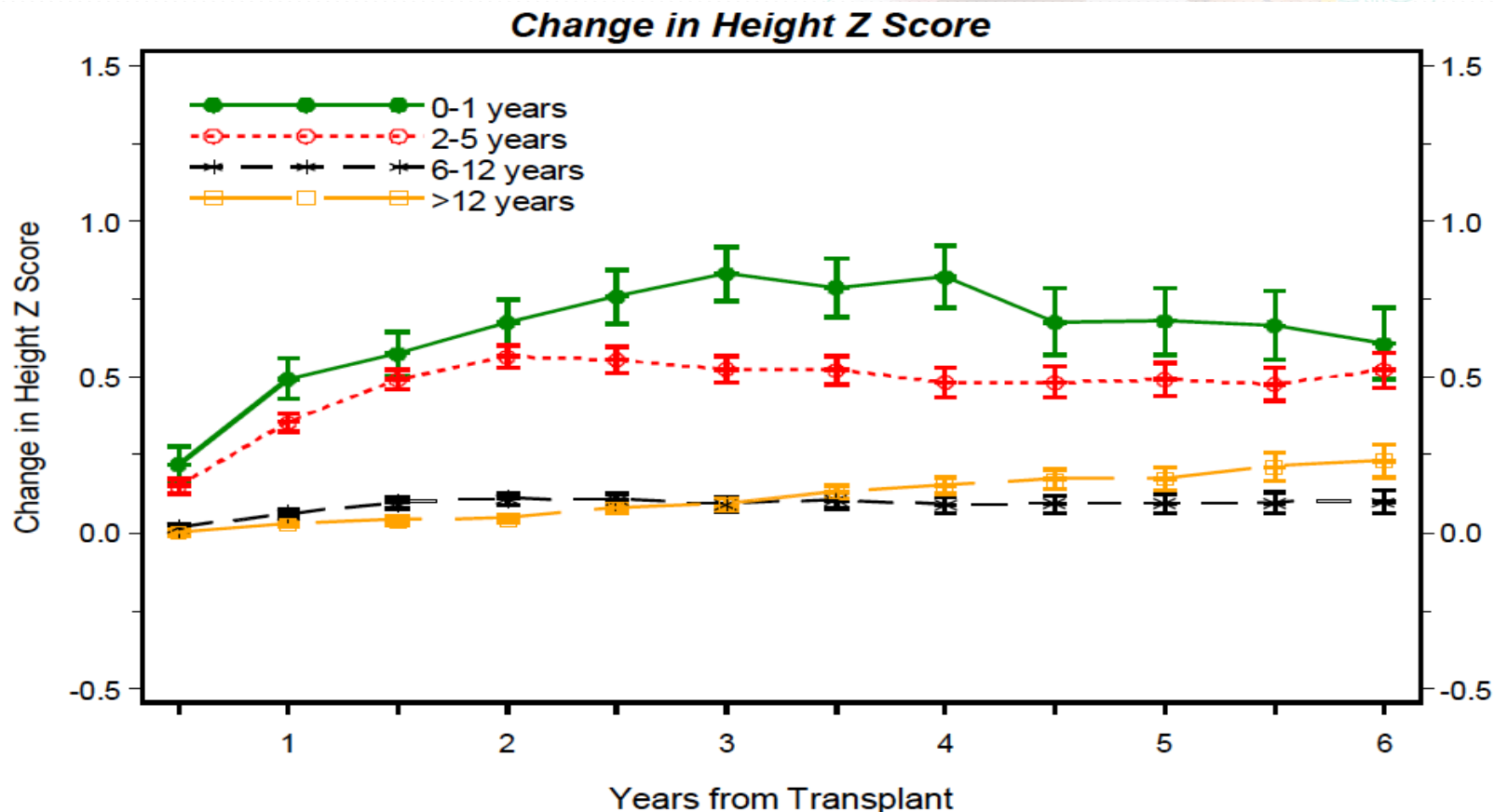
Hans Hartmann,¹ Nicola Hawellek,¹ Mirja Wedekin,¹ Charlotte Vogel,² Anibh M. Das,¹ Katharina Balonwu,¹ Jochen H. H. Ehrich,¹ Dieter Haffner¹ and Lars Pape¹

Neurocognitive outcome in congenital CKD



Crescimento após Transplante Renal Pediátrico

NAPRTCS 2010
Transplantation



Desfecho: custo da TRS

Cost analysis of substitutive renal therapies in children[☆]

Maria Fernanda Carvalho de Camargo^a, Klenio de Souza Barbosa^b,
Seiji Kumon Fetter^c, Ana Bastos^a, Luciana de Santis Feltran^a,
Paulo Cesar Koch-Nogueira^{a,*}

J Pediatr (Rio J). 2018;94(1):93–99

Figure 14 – Comparison of cumulative costs: patients from conventional hemodialysis (Thousand R\$)

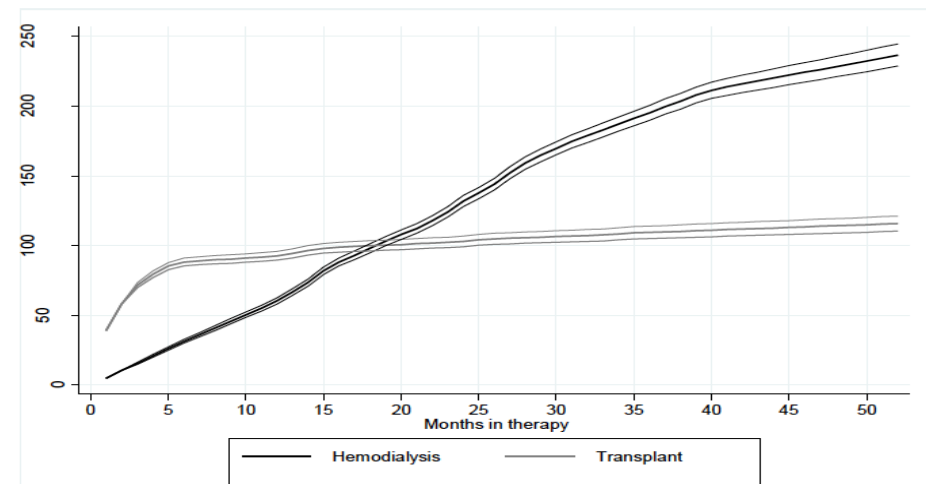
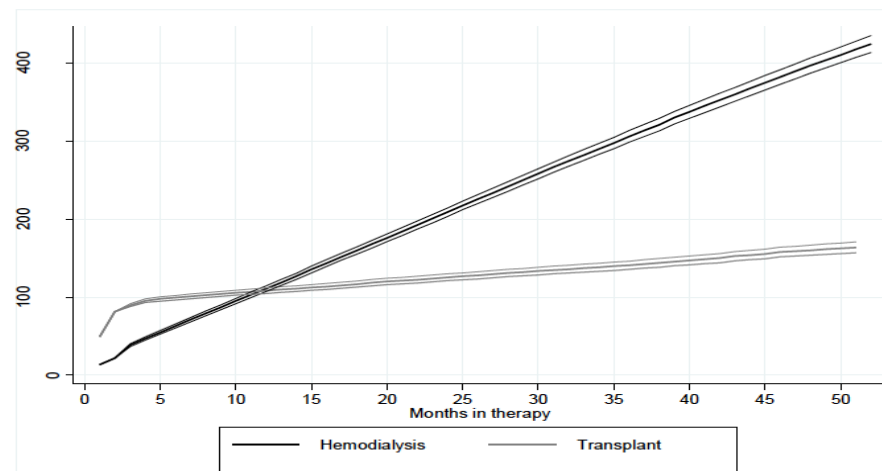
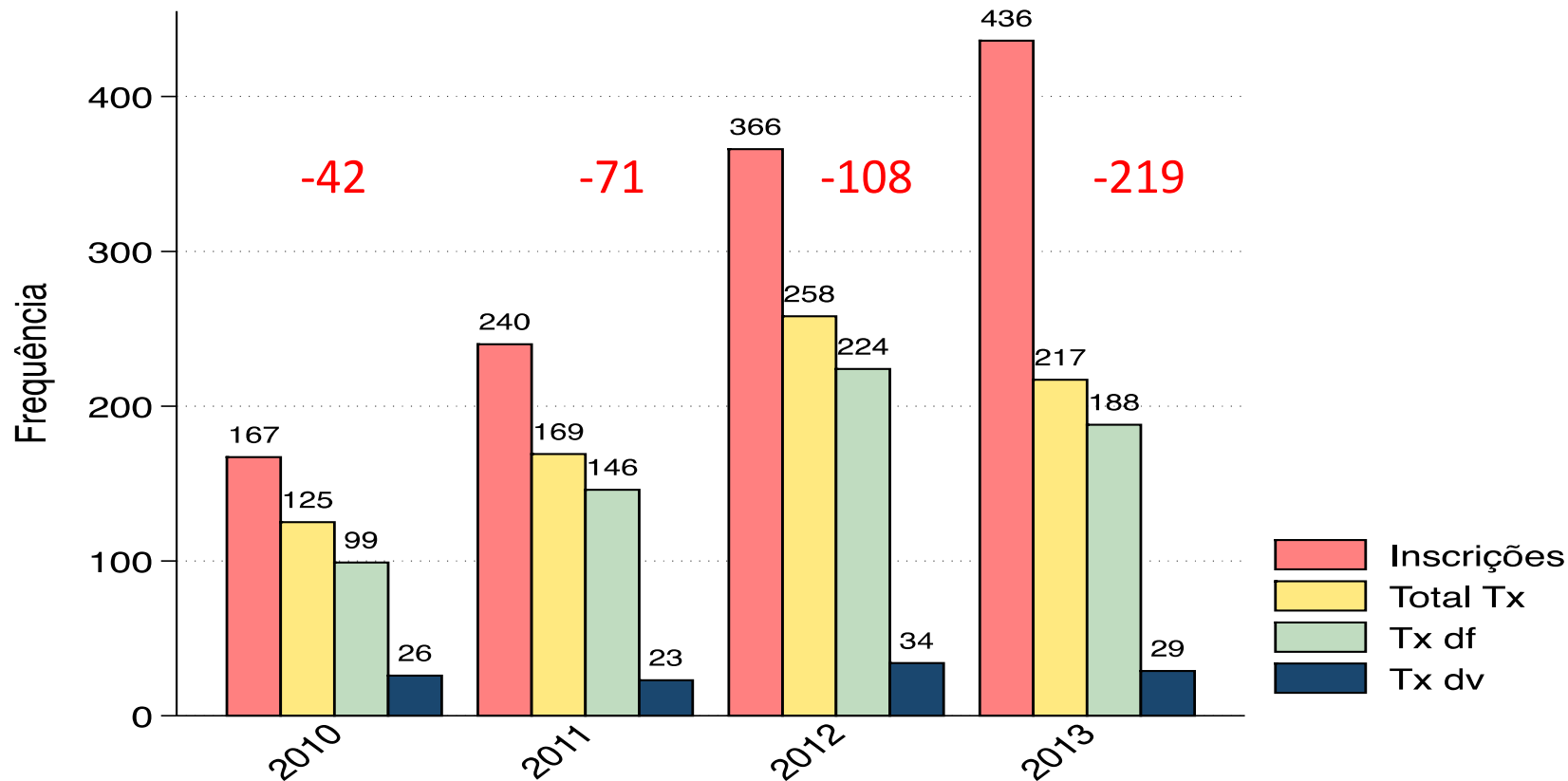


Figure 15 – Comparison of cumulative costs: patients from daily hemodialysis (Thousand R\$)



Transplantes renais pediátricos realizados no Brasil (2010-2013)



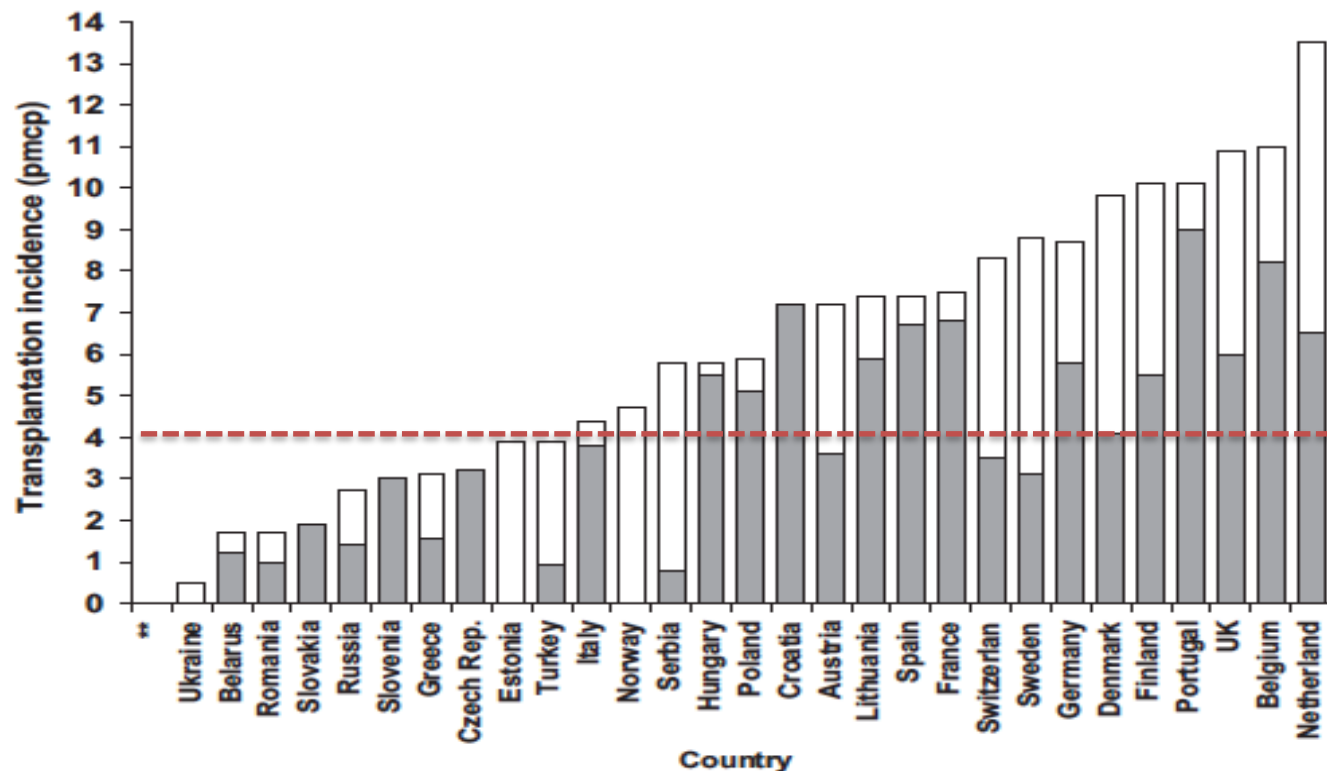
Incidência de Tx em 2012=4,1 cpm (IC95%=2,6 – 5,5 cpm)

Disparities in Policies, Practices and Rates of Pediatric Kidney Transplantation in Europe

American Journal of Transplantation 2013; 13: 2066–2074

J. Harambat^{1,2,*}, K. J. van Stralen^{1,*},
F. Schaefer³, R. Grenda⁴, A. Jankauskiene⁵,
M. Kostic⁶, M.-A. Macher⁷, H. Maxwell⁸,
Z. Puretic⁹, A. Raes¹⁰, J. Rubik⁴,
S. S. Sørensen¹¹, Ü. Toots¹², R. Topaloglu¹³,
B. Tönshoff³, E. Verrina¹⁴ and K. J. Jager¹

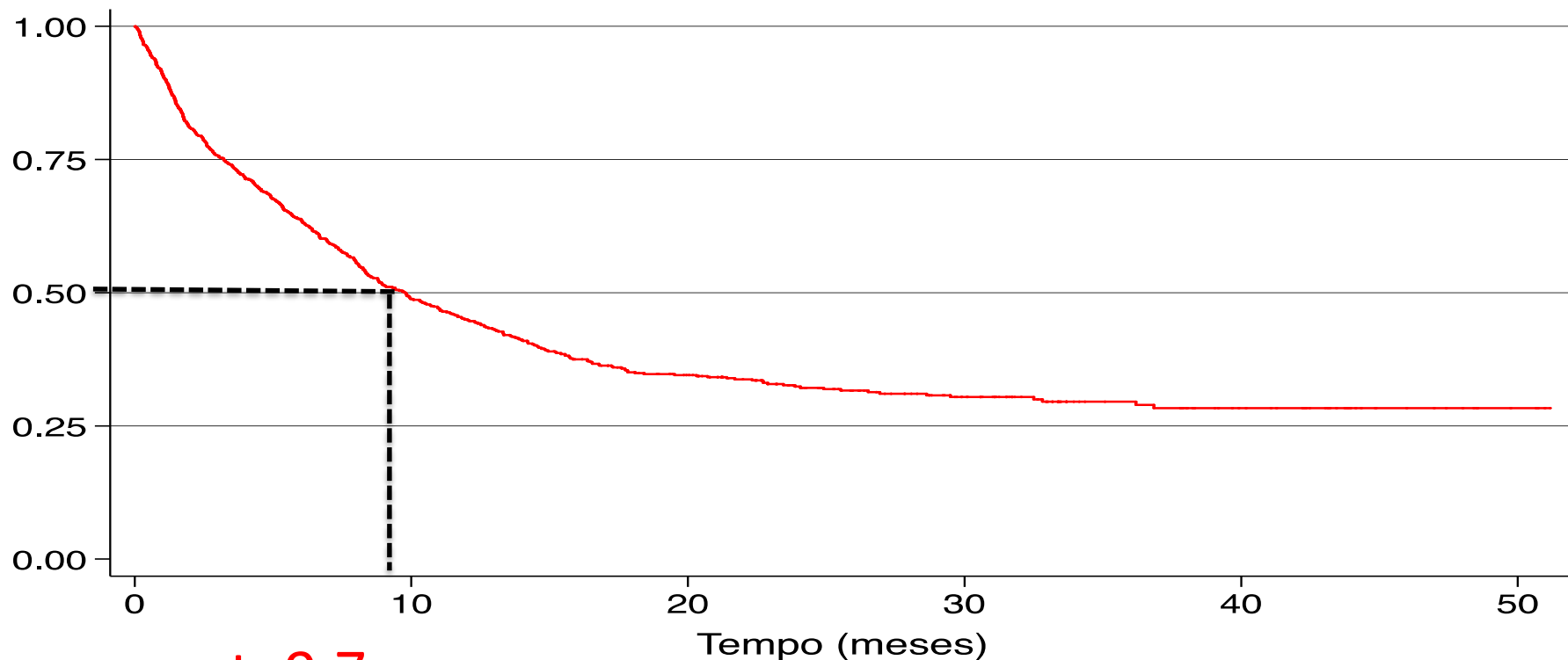
Harambat et al.



PNA TEACHING COURSE

Probabilidade de receber um transplante com df no Brasil (2010-2013)

Probabilidade de receber um Tx com df



t=9,7 meses

Disparities in Policies, Practices and Rates of Pediatric Kidney Transplantation in Europe

American Journal of Transplantation 2013; 13: 2066–2074

J. Harambat^{1,2,*}, K. J. van Stralen^{1,*},
F. Schaefer³, R. Grenda⁴, A. Jankauskiene⁵,
M. Kostic⁶, M.-A. Macher⁷, H. Maxwell⁸,
Z. Puretic⁹, A. Raes¹⁰, J. Rubik⁴,
S. S. Sørensen¹¹, Ü. Toots¹², R. Topaloglu¹³,
B. Tönshoff³, E. Verrina¹⁴ and K. J. Jager¹

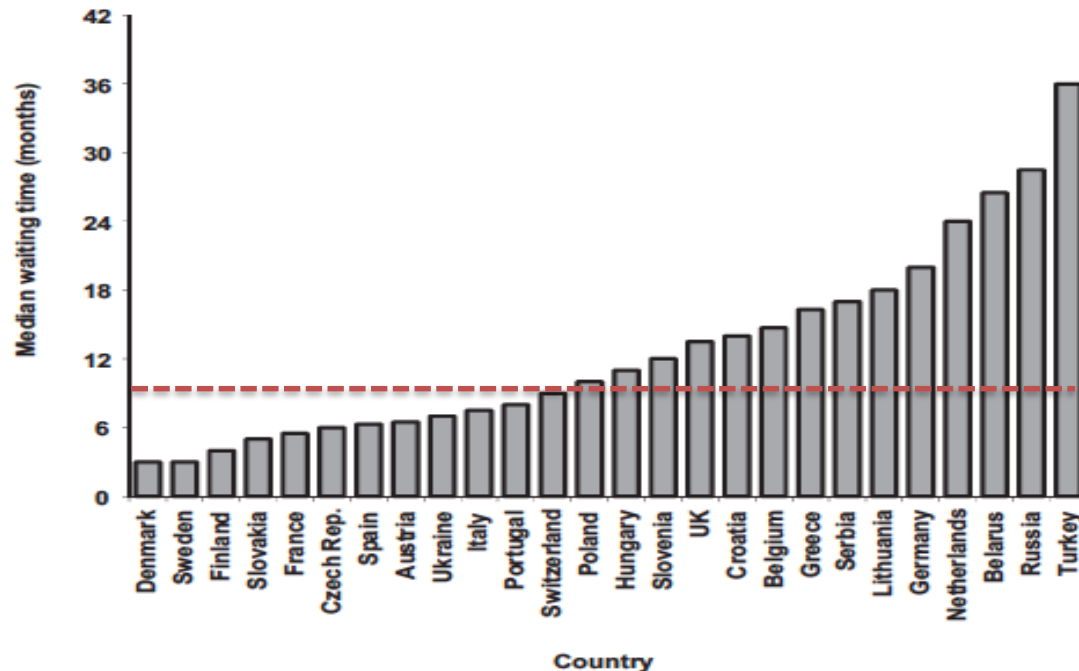


Figure 4: Median waiting time for deceased donor pediatric kidney transplantation in Europe in 2008. KTx in children <18 years of age.



IPNA TEACHING
COURSE

Inequality in pediatric kidney transplantation in Brazil

Paulo Cesar Koch Nogueira^{1,2} • Maria Fernanda Camargo de Carvalho¹ •
Luciana de Santis Feltran^{1,2} • Tulio Konstantyner² • Ricardo Sesso³

Pediatr Nephrol (2016) 31:501–507

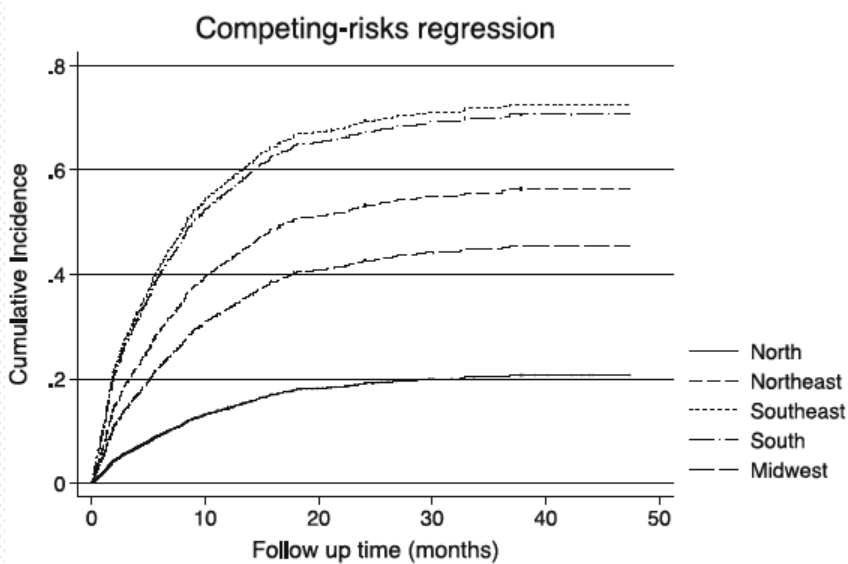


Fig. 1 Cumulative incidence of deceased donor kidney transplant according to geographic region

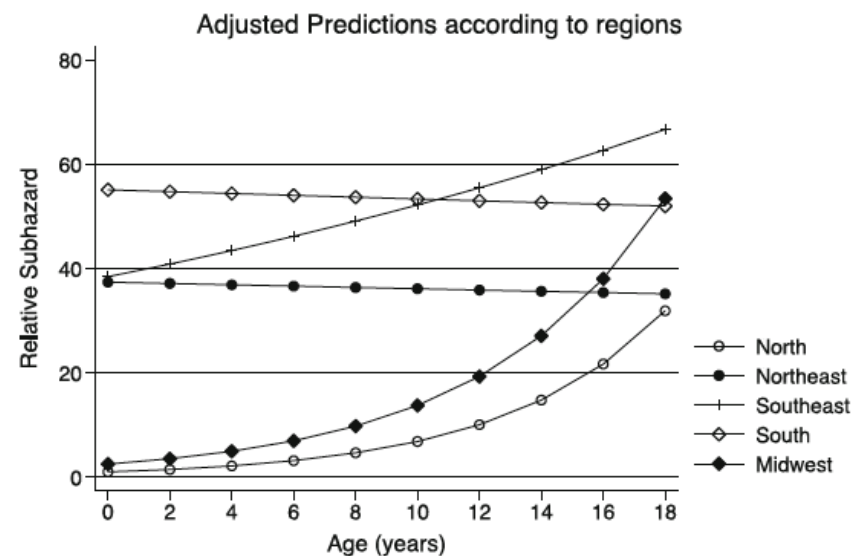
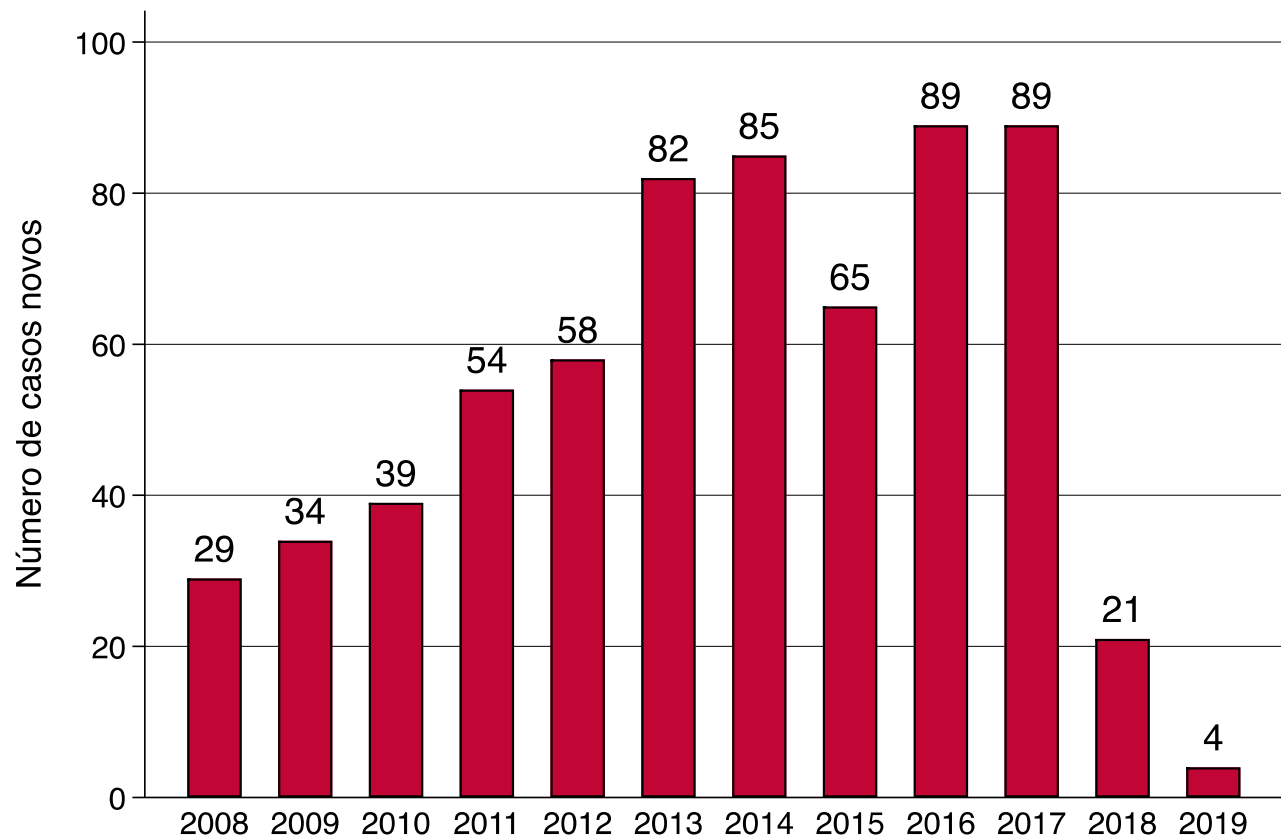
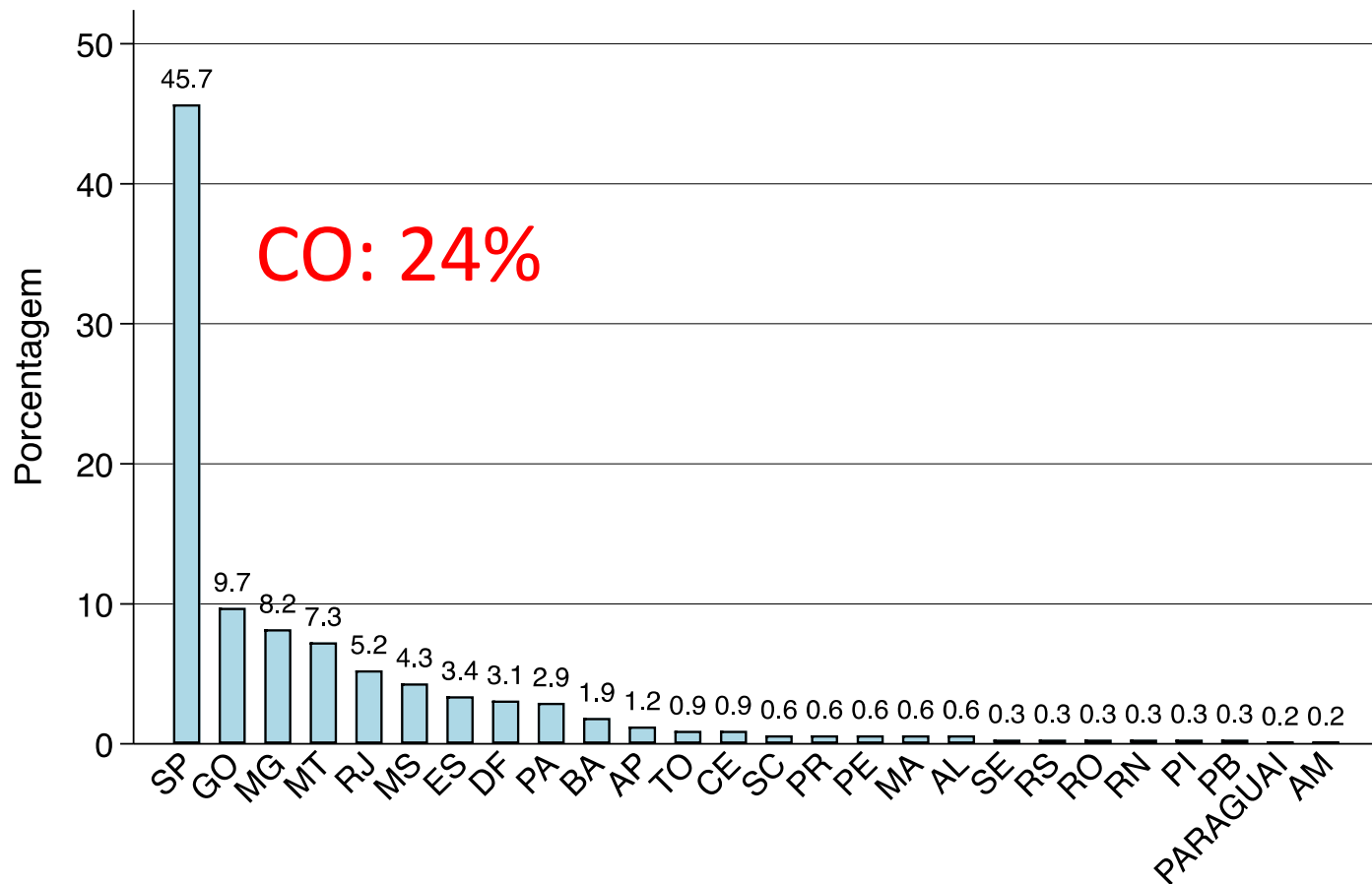


Fig. 2 Graphical representation of the interaction between geographic region and age on the probability of a deceased donor kidney transplant

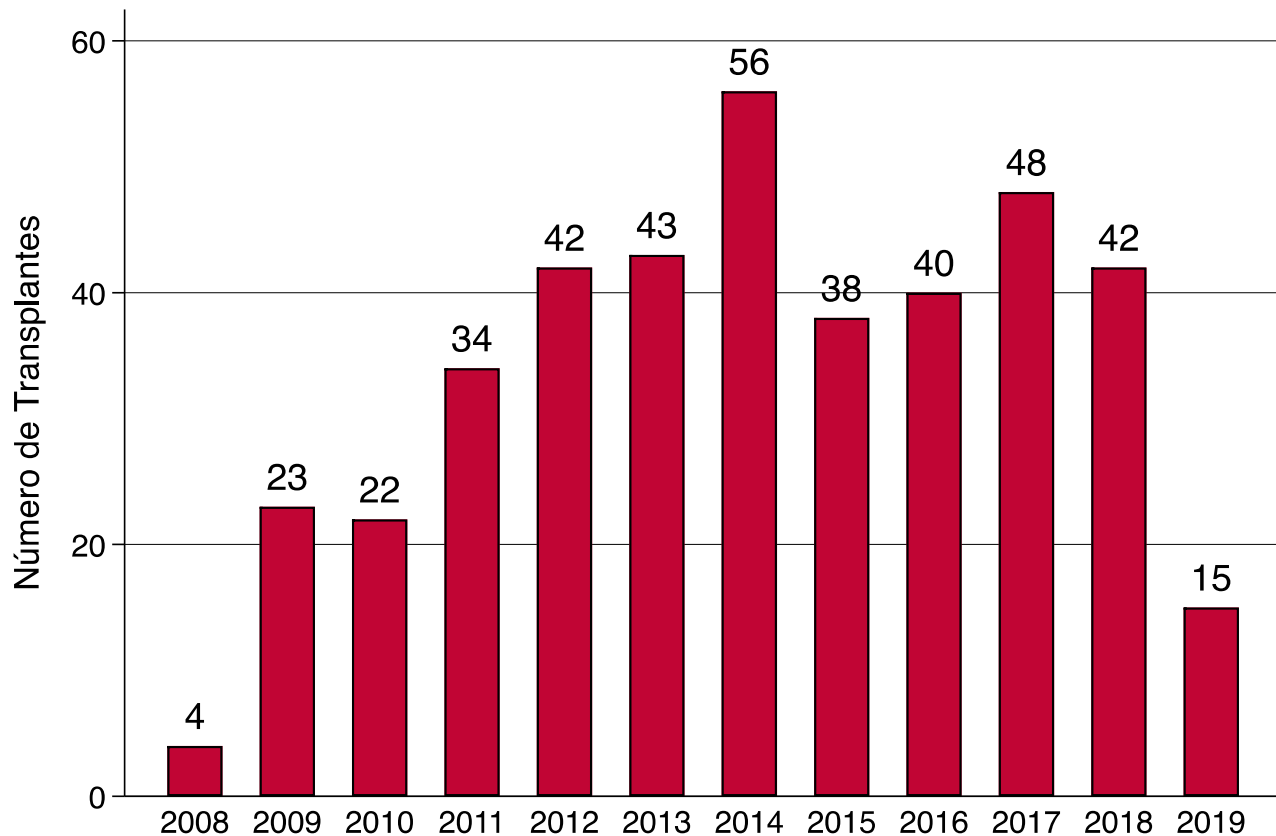
De 2008 até Abril de 2019 → 649 crianças matriculadas no serviço de Transplante Renal do Samaritano



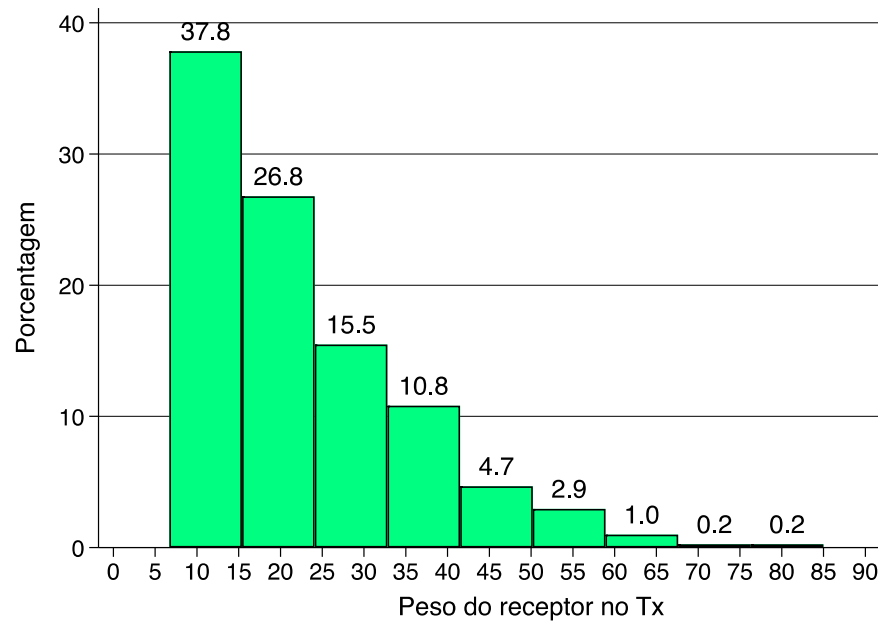
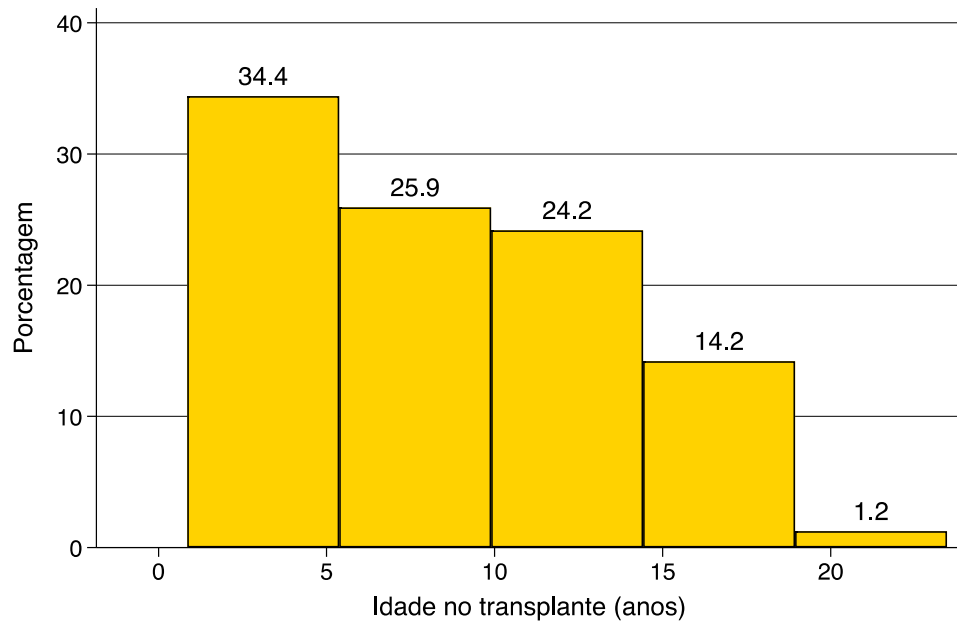
54% delas provenientes de outros estados:



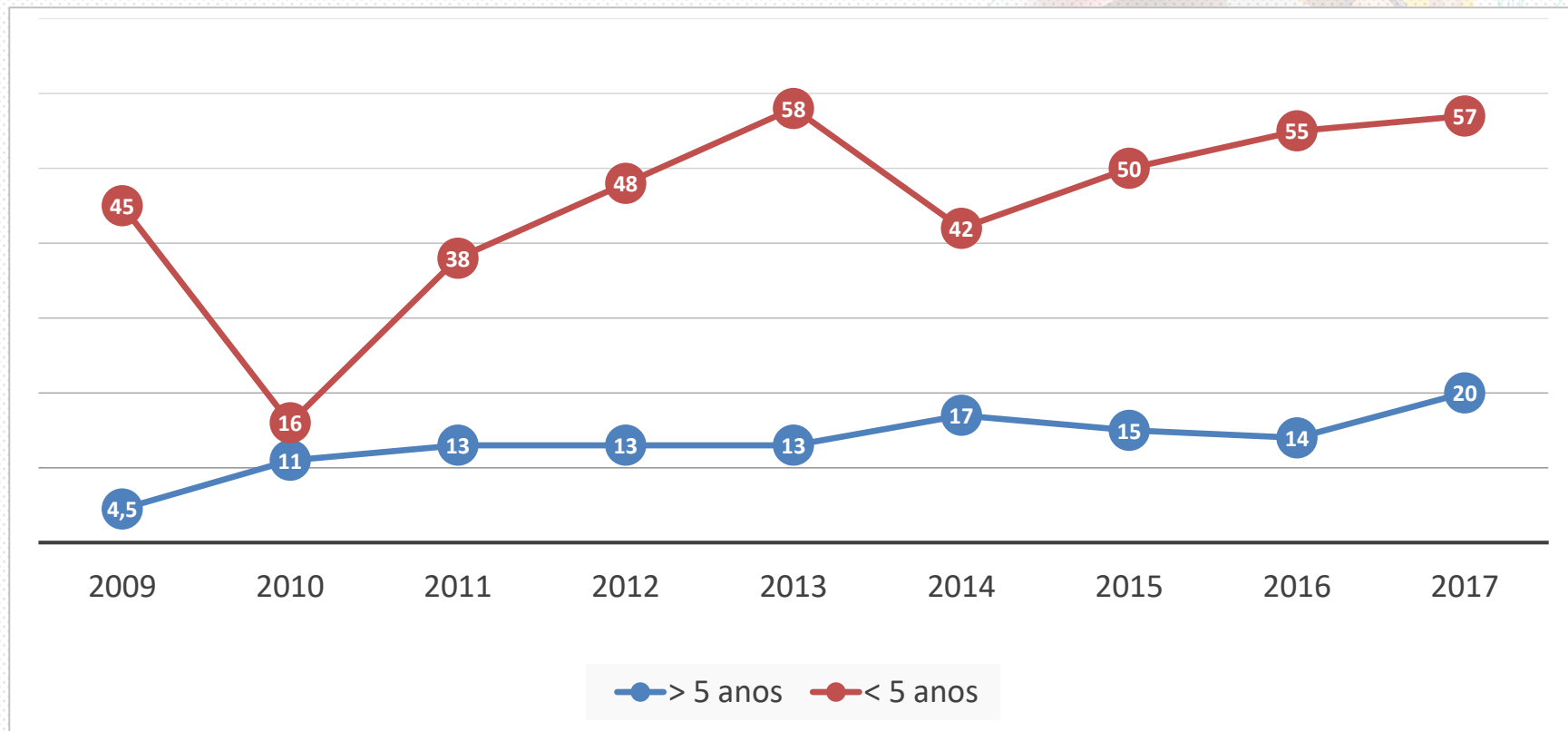
407/649 crianças (63%) receberam Transplante Renal no Samaritano
média de ± 36 Txs/ano



Idade e Peso no Transplante Renal



Porcentagem de Transplantes no Hospital Samaritano em relação ao Brasil



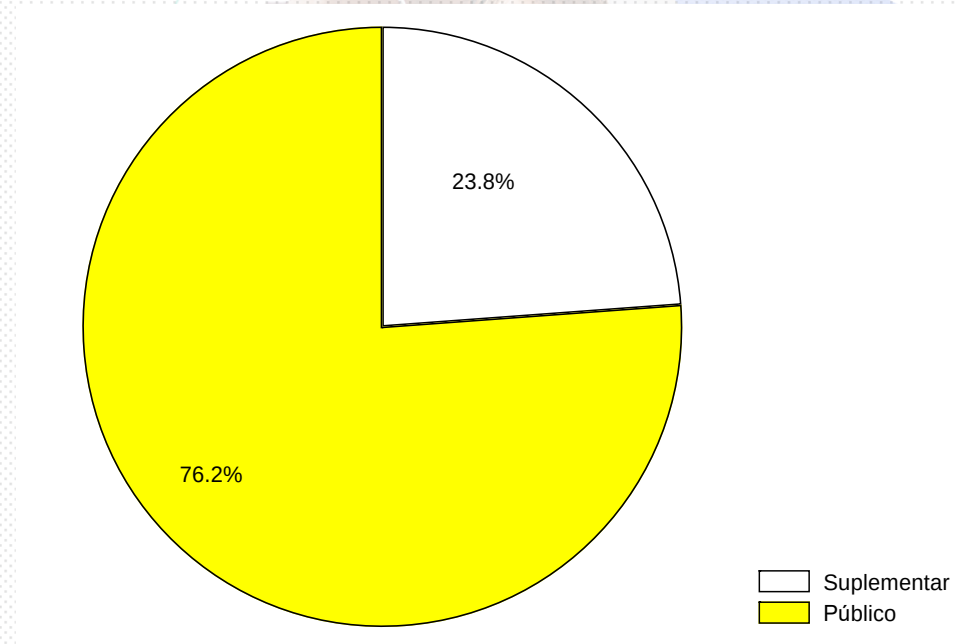
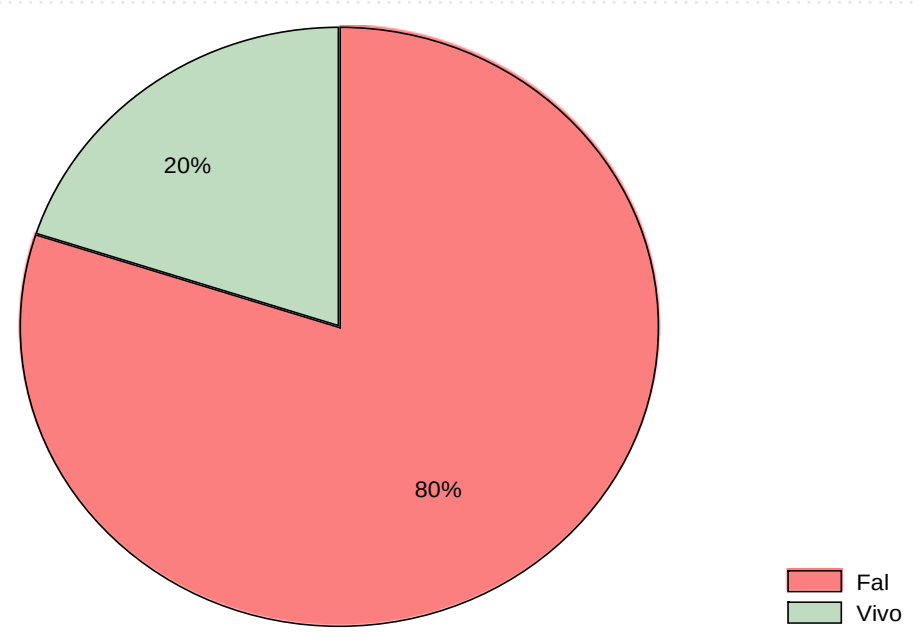
Fonte: Collaborative Brazilian pediatric renal transplant registry (CoBrazPed-RTx)



Da embriogênese
ao transplante

IPNA TEACHING
COURSE

Doador e fonte de pagamento



Sobrevida do enxerto comparável ao mundo desenvolvido

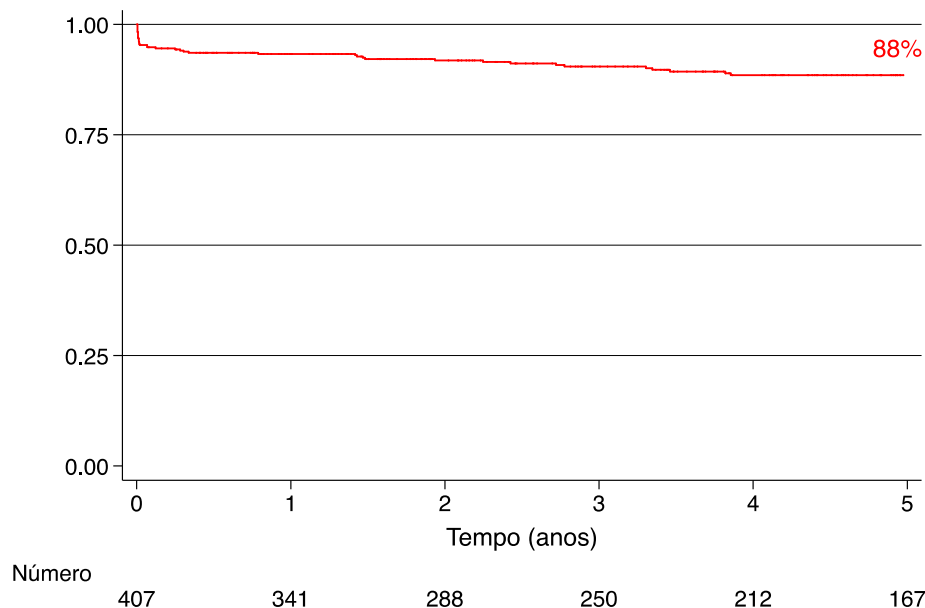


TABLE 2 Outcomes Among Pediatric (<18 years old) Kidney Transplants Performed Between 1987 and 2012 (*n* = 17 446), Stratified by Transplantation Period

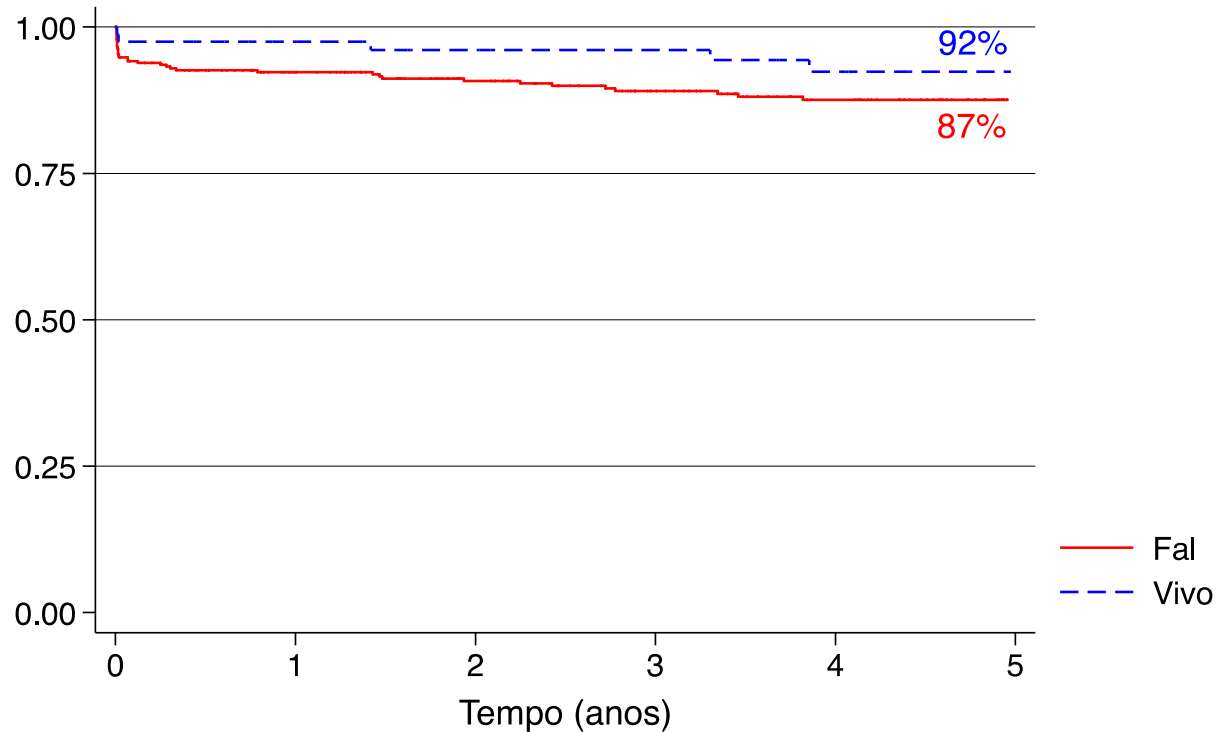
	Transplantation Period			
	1987–1993 (<i>n</i> = 3942)	1994–2001 (<i>n</i> = 5460)	2002–2004 (<i>n</i> = 2310)	2005–2012 (<i>n</i> = 5734)
DCGS (%)				
1-year	84.0	92.6	95.1	95.3
5-year	65.9	75.1	77.3	78.6
10-year	48.8	55.6	—	—
DGF (%)	14.5	10.0	7.3	7.5
PNF (%)	11.6	5.2	2.8	2.7
Patient survival (%)				
1-year	96.5	98.4	98.5	98.9
5-year	92.4	95.2	95.2	96.6
10-year	85.8	89.1	—	—

—, indicates data are not yet available.

National Trends Over 25 Years in Pediatric Kidney Transplant Outcomes

PEDIATRICS Volume 133, Number 4, April 2014

Sobrevida do enxerto de acordo com o doador



Número

Fal 327

269

225

194

166

129

Vivo 80

72

63

56

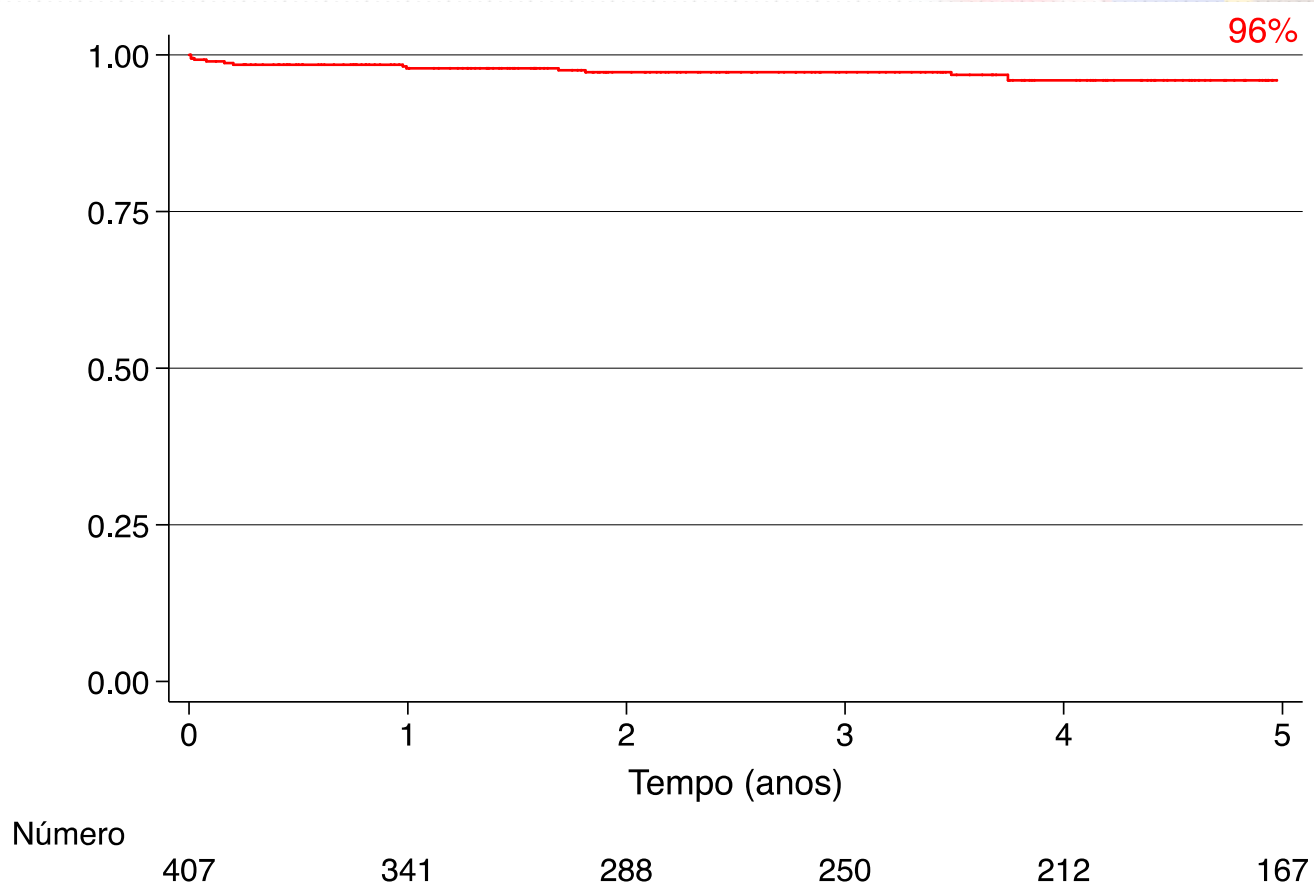
46

38

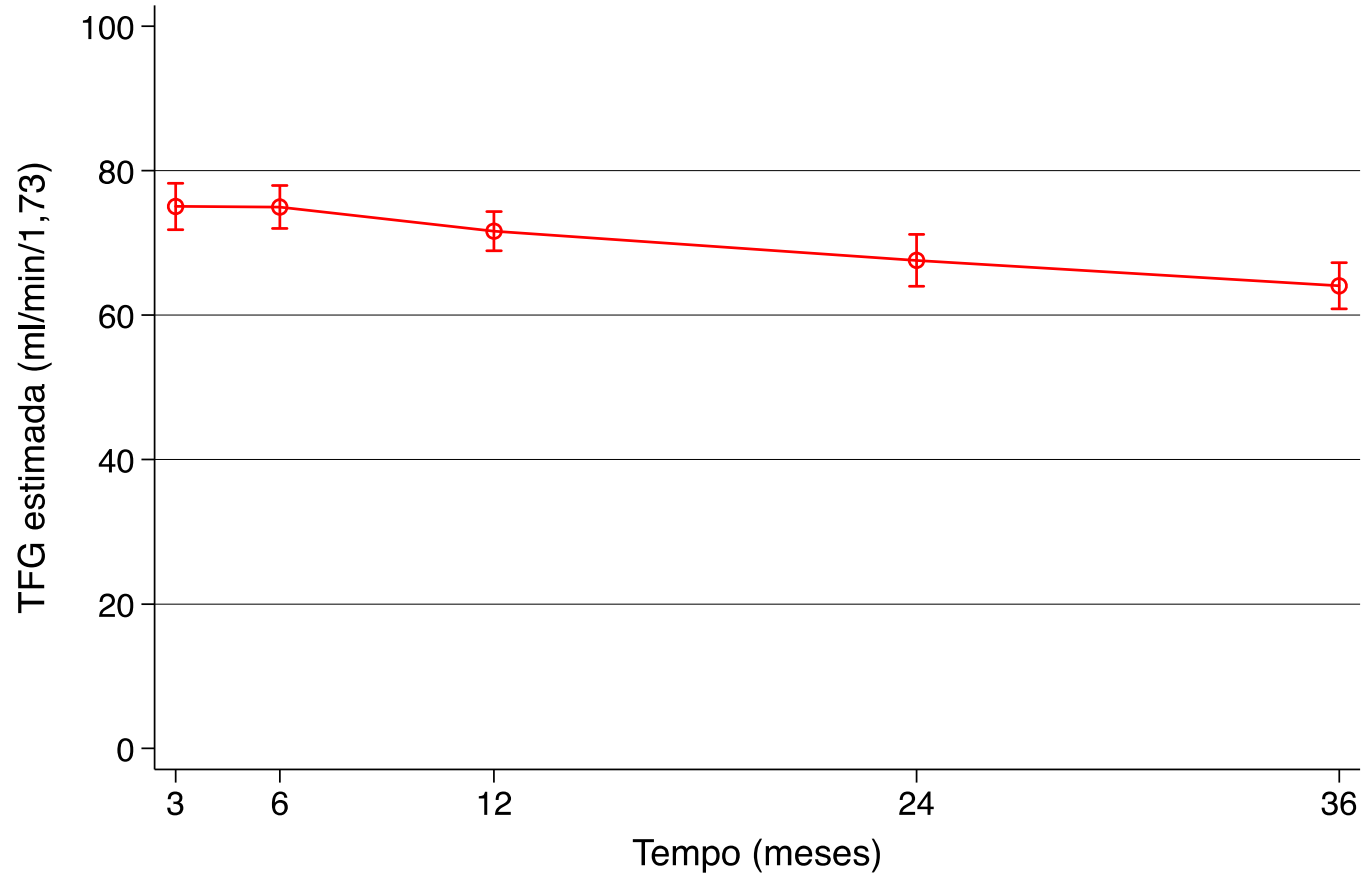


IPNA TEACHING
COURSE

Sobrevida de pacientes



Função de enxerto ao longo do tempo



Mensagens finais – onde estamos e onde queremos chegar?

- Transplante é o melhor tratamento da DRC terminal em crianças;
- O diagnóstico da DRC no Brasil é tardio e incompleto;
- Atividade de transplante pediátrico no Brasil é robusta, porém com iniquidades (Norte e Centro-Oeste com menor acesso);
- O tempo para transplantar crianças em grandes centros é compatível com o mundo desenvolvido;
- Crianças menores têm menor acesso ao Tx.

www.conepmt.com.br



IPNA TEACHING COURSE
International Pediatric Nephrology Association

Mensagens finais – onde estamos e onde queremos chegar?



- **Natureza**
- **Hospitalidade**
- **Admiração**

pckoch@uol.com.br



IPNA TEACHING
COURSE