

G-Peristat



Neonatal Perinatal Outcomes in The Arabian Gulf

A PEARL Study Analysis

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Women's Hospital

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State of Qatar

The Gulf Cooperation Council (GCC) Countries

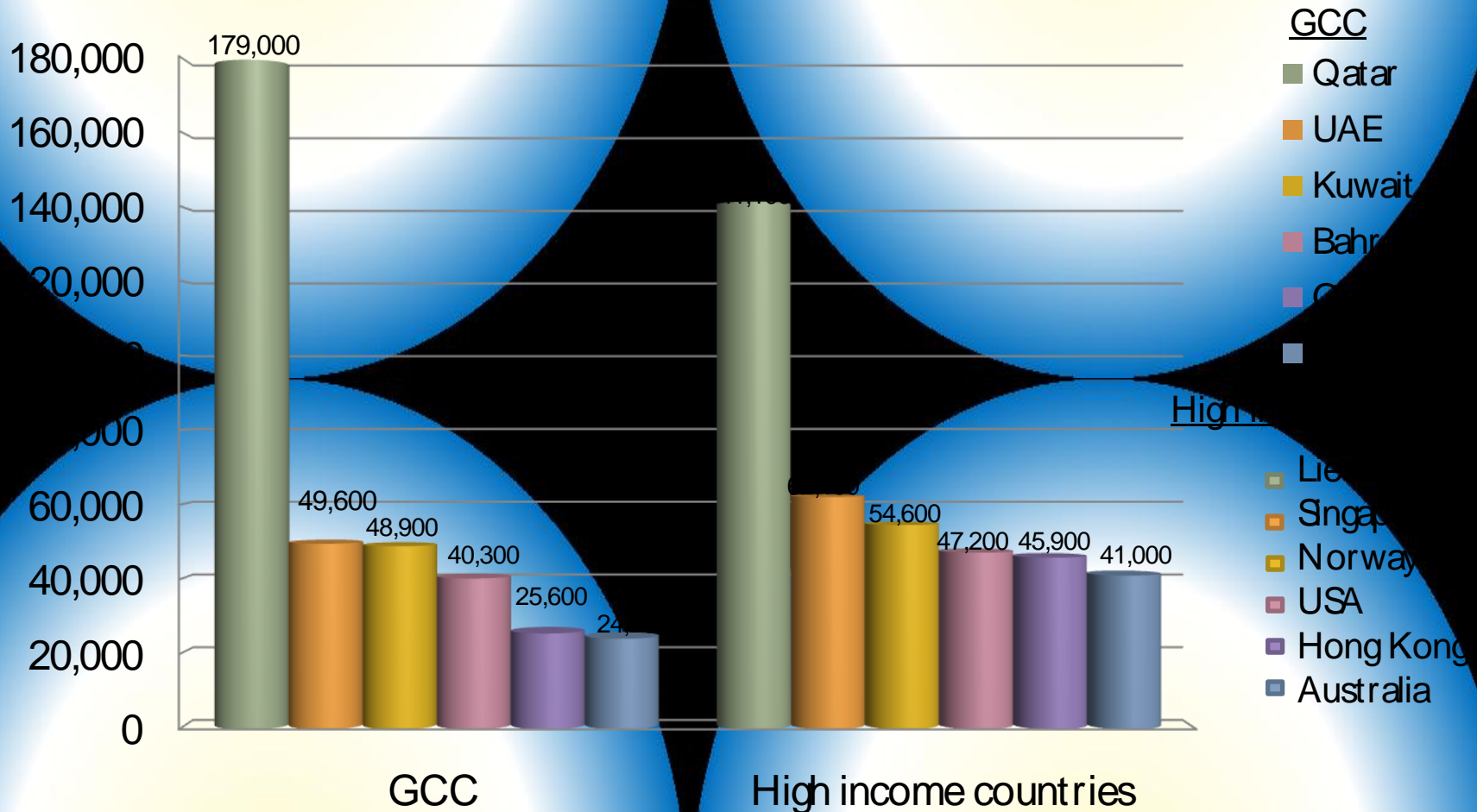
Saudi Arabia, Kuwait, Bahrain, Qatar, UAE, Oman



GDP per Capita 2011 (US \$)

GCC countries versus High income countries

Source : (i) <http://www.indexmundi.com/>
(ii) CIA World Factbook



The Changing Landscape and lifestyle in the Arabian Gulf





The Changing Landscape in GCC

The New Landscape and Life style in the Arabian Gulf



Perinatal Neonatal Outcomes Research Study in the Arabian Gulf

PEARL Study



PEARL Study

A Prospective National Epidemiologic Study

A Joint Collaborative Research Project of



Funding

3rd Cycle 2011-2013

Grant # QNRF-NPRP-09-390-3-097



PEARL Study

**A Joint Collaborative Research Project of
Hamad Medical Corporation Qatar & University of Gloucestershire UK**

Team of Researchers

- Dr. Sajjad ur Rahman
- Prof: Walid El Ansari
- Prof: Abdubari Bener
- Dr. Hilal Amin Al Rifai
- Dr. Halima Al Tamimi

➤ Funded by QNRF



PEARL STUDY PI's



PEARL Study

Data Collection Team

Dr. Nuha Al Nimeri	Research Fellow
Dr. Sarah El Tinai	Research Associate
Dr. Ameerah Tamano	Research Assistant
Dr. Faiza Rani	Research Assistant
Ms. Rabia Aman	Research Assistant
Dr. Arjumand Afzal	Research Assistant
Dr. Sayma Khan	Research Assistant
Dr. Naseeba Khatoon	Research Assistant
Dr. Naseera Abu Bakr	Research Assistant
Dr. Lamman Naji	Research Assistant

PEARL Study Team



PEARL Study

Aim

PEARL study will assess a wide range of Perinatal and Neonatal events, their risk factors, care processes and outcomes at the national level in Qatar with an aim to produce strategic guidelines to improve reproductive outcomes in Qatar, GCC and other regional countries

PEARL Study

Objective # 1

To Establish Qatar's National Perinatal Registry

(Q-Peri-Reg)

PEARL Study

Objective # 2

Neonatal Mortality & its Correlates
Neonatal Morbidity & its Correlates

PEARL Study

Objective # 3

Perinatal Mortality & its Correlates
Perinatal Morbidity & its Correlates

PEARL Study

Objective # 4

Maternal Mortality & its Correlates
Maternal Morbidity & its Correlates

PEARL Study

Objective # 5

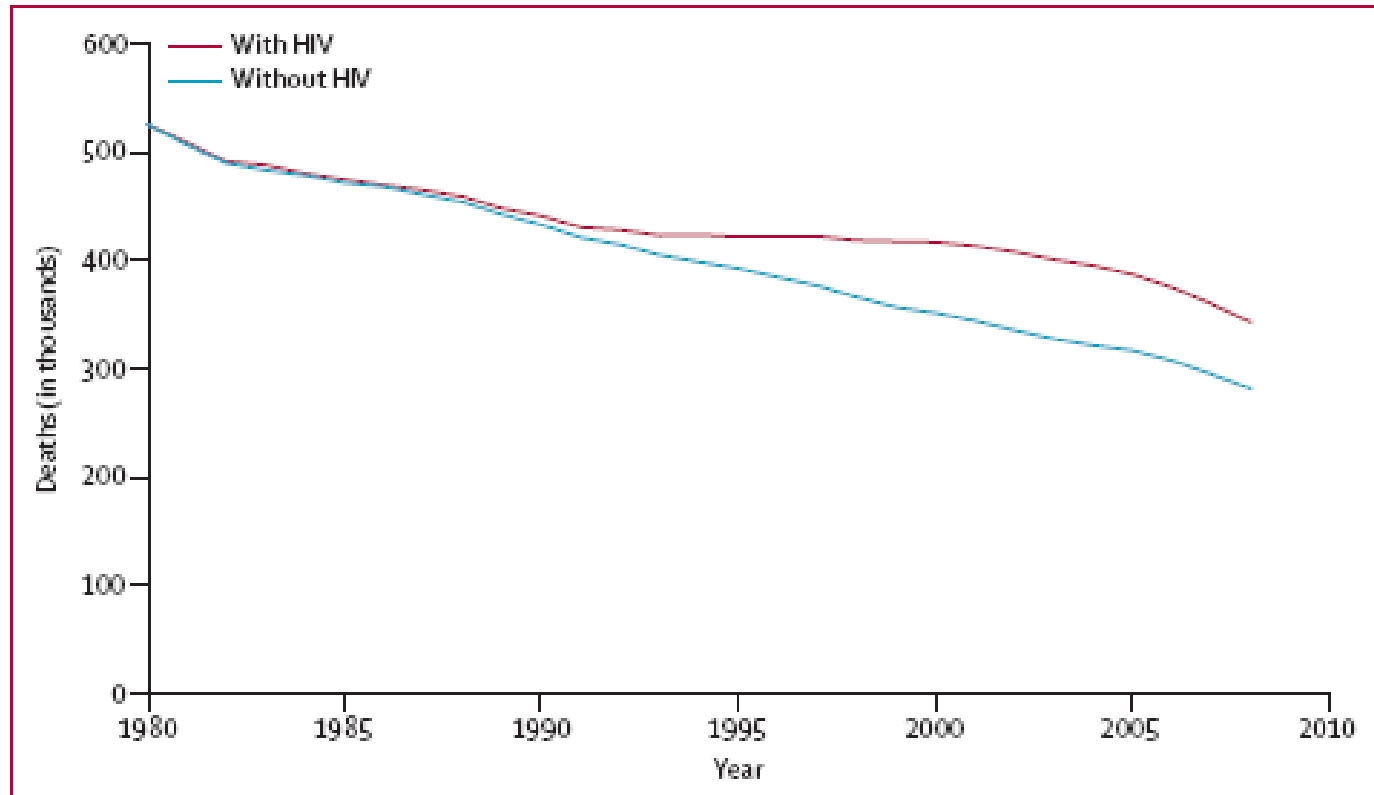
To generate strategic guidelines for improving
reproductive outcomes using
The State of Qatar as a model

Today's Presentation

- Maternal Mortality in GCC
- Neonatal Mortality in GCC
- Perinatal Mortality in GCC

Global decline in Maternal Mortality 1980-2008

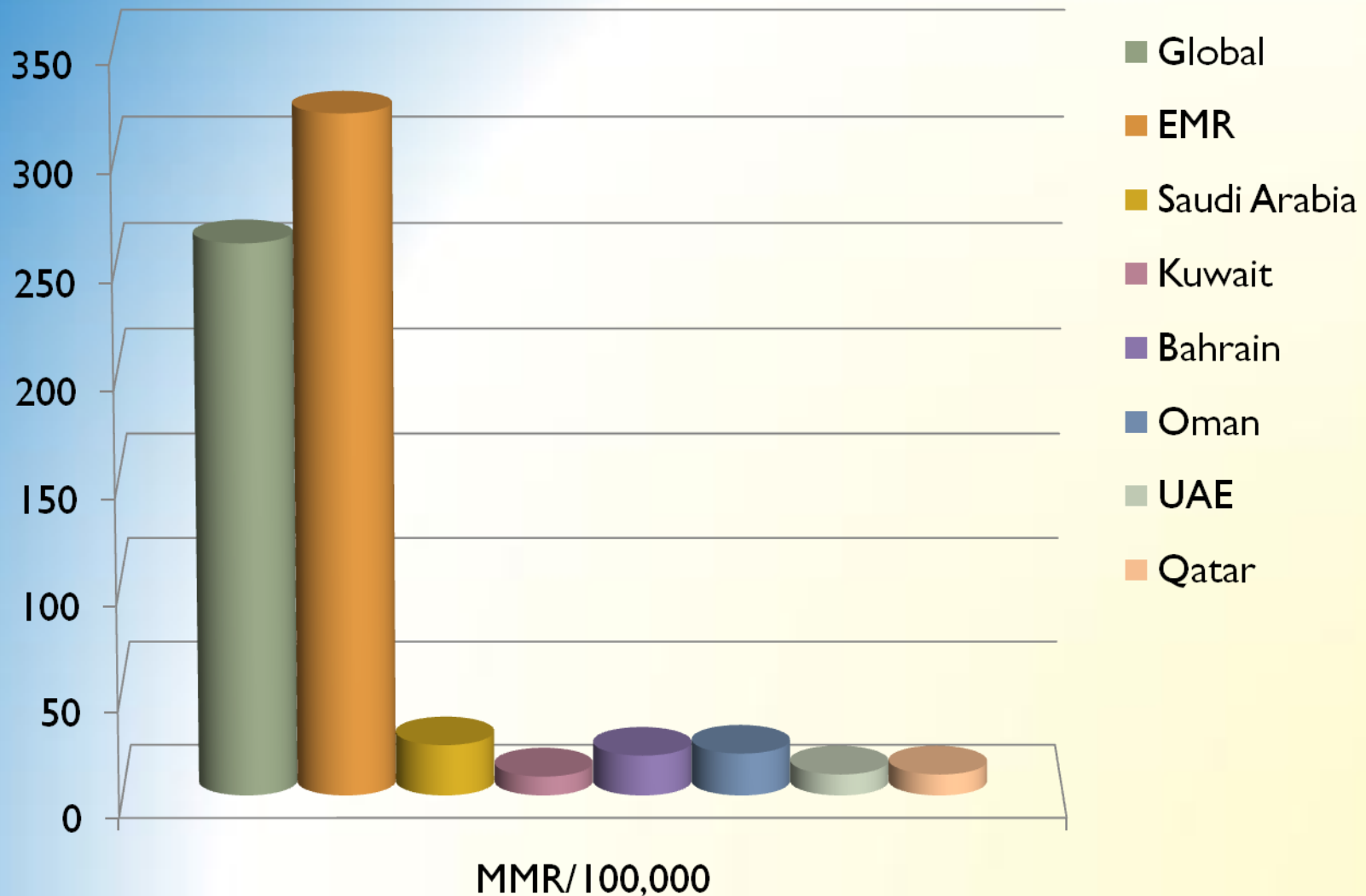
Source: Hogan M C et al. *Lancet* 2010; 375: 1609–23



Maternal Mortality Rate

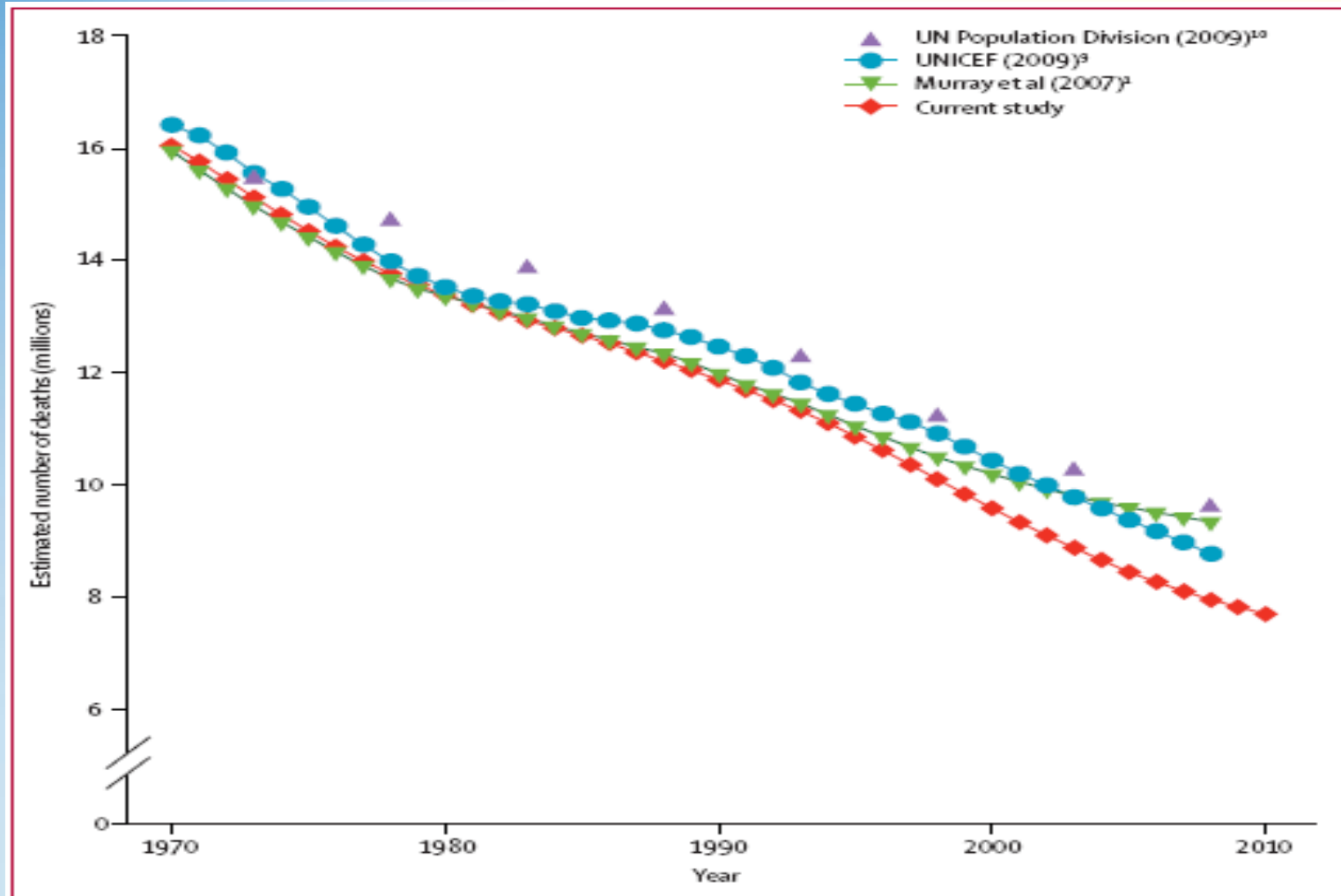
Global, Eastern Mediterranean Region (EMR) and GCC during 2009

Source World Health Statistics 2011 by WHO



Global decline in < 5 Mortality between 1970-2010

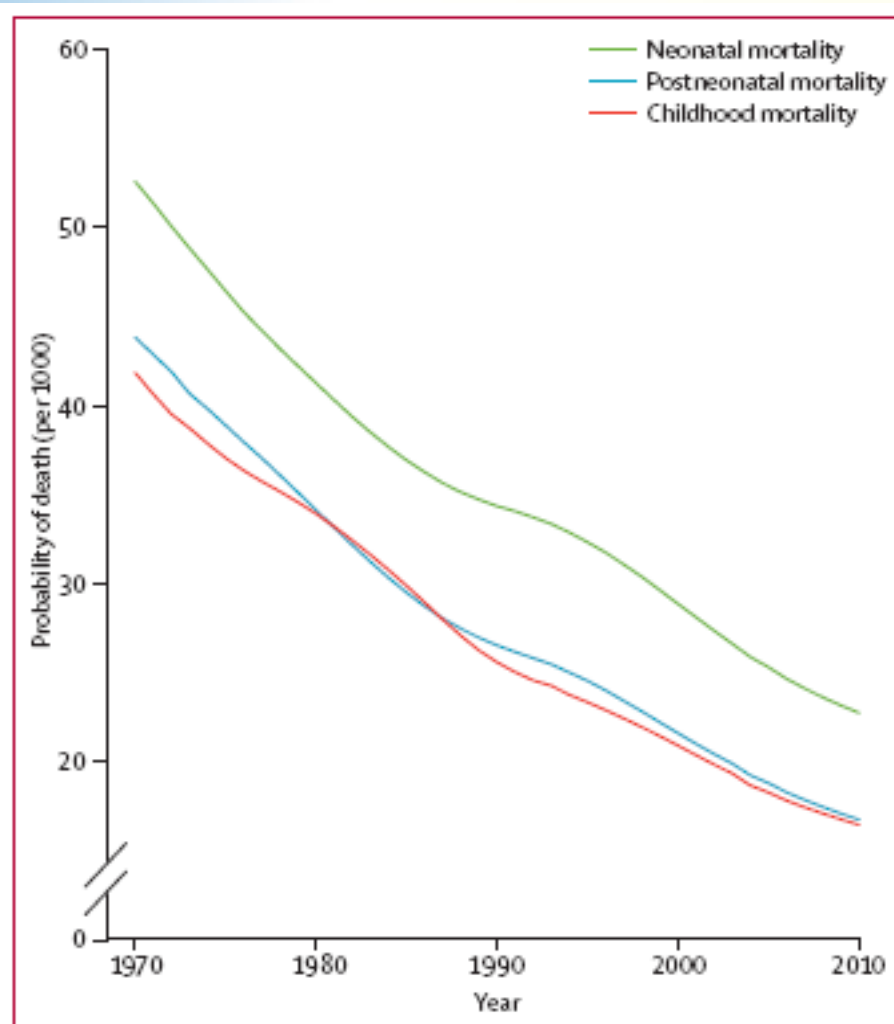
Lancet May 24, 2010;1-21



Neonatal, Post Neonatal and Childhood Mortality

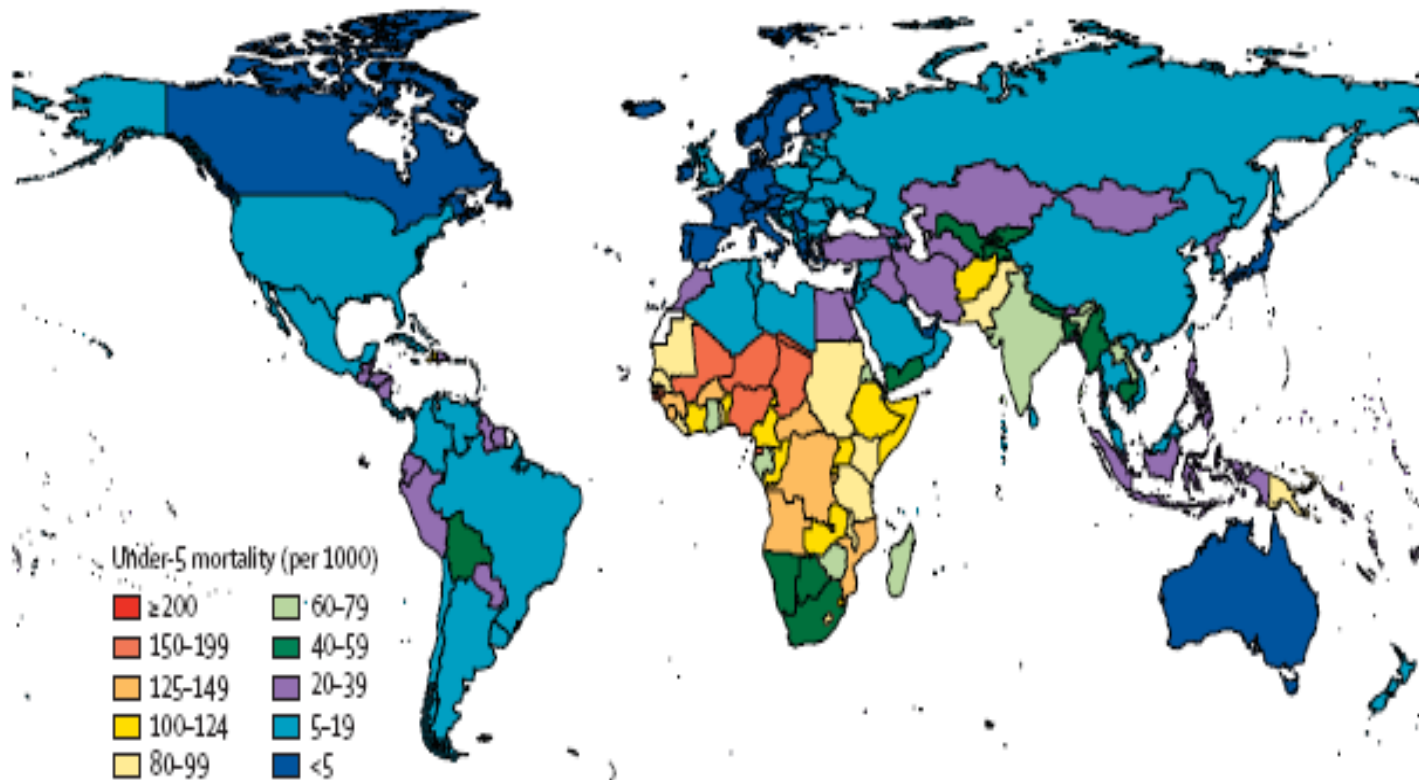
Global Trends 1970-2010

Lancet May 24, 2010;1-21



Country wise < 5 Mortality 2010

Lancet May 24, 2010;1-21



Middle East & North Africa (MENA)

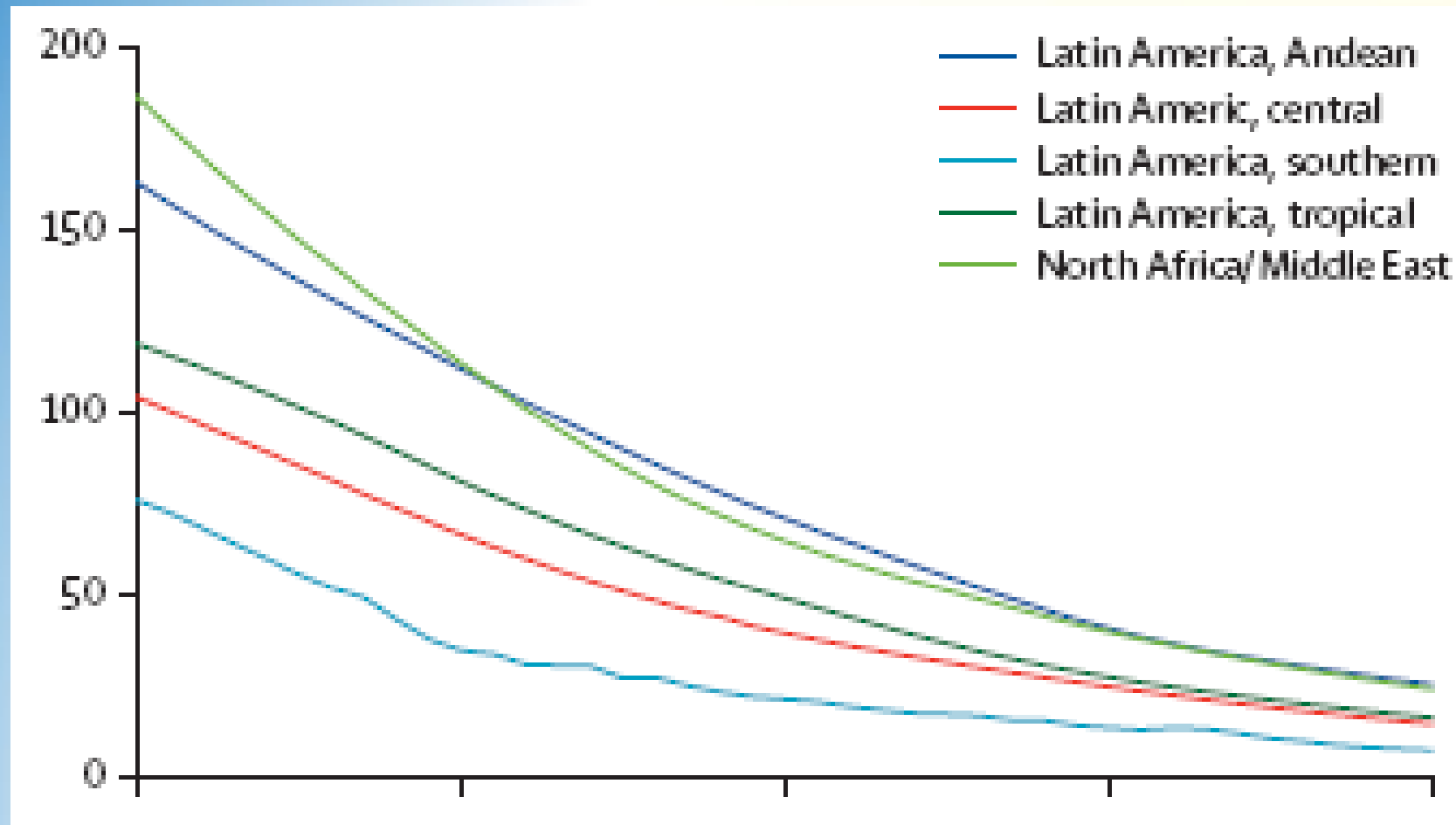
< 5 Mortality in 2010

Lancet May 24, 2010;1-21



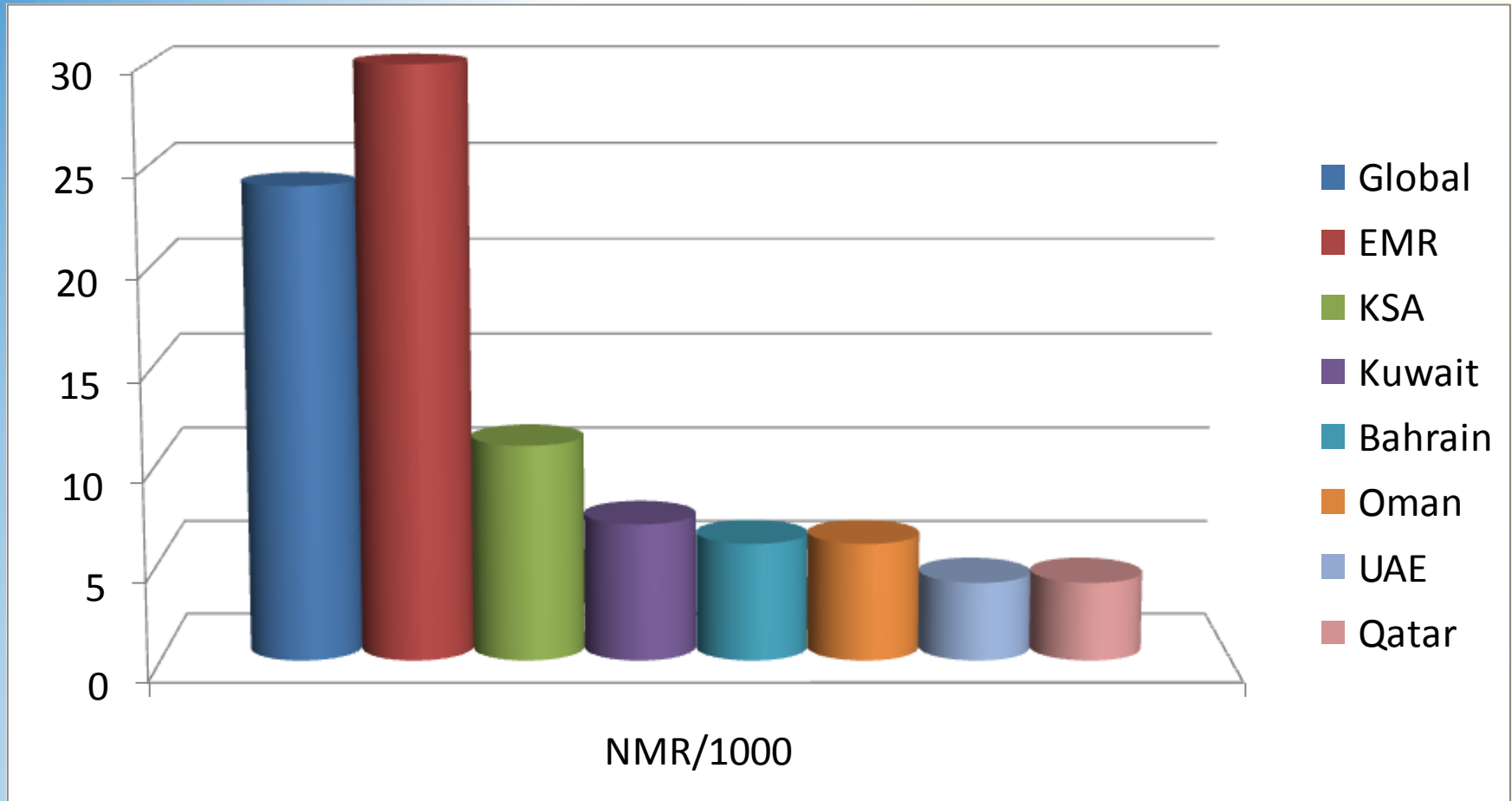
Under Five Mortality MENA 1970-2010

Lancet May 24, 2010;1-21



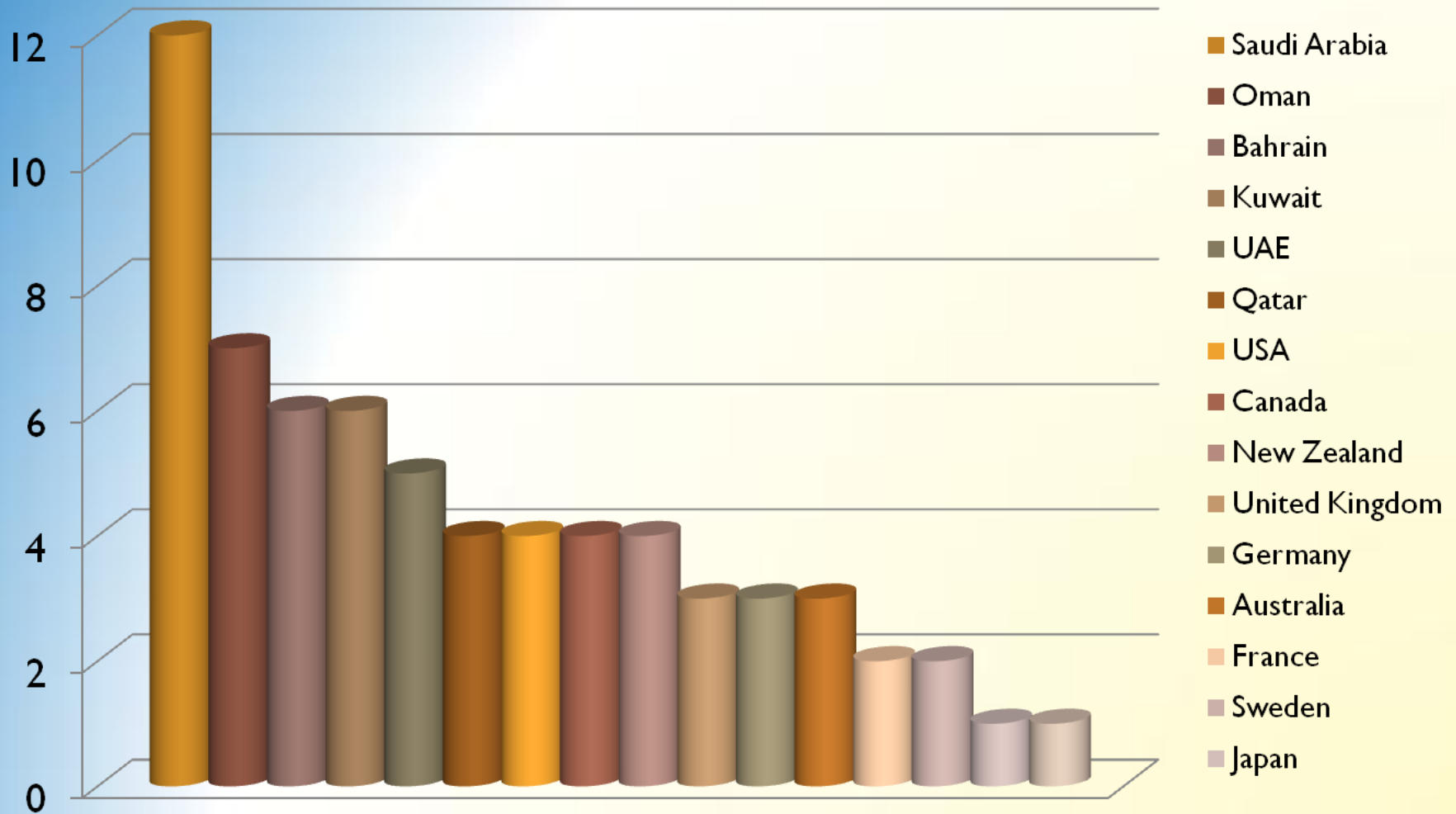
NMR in GCC Countries

Source: World Health Statistics 2011 (WHO)



Neonatal Mortality Rates GCC Vs High Income Countries 2011

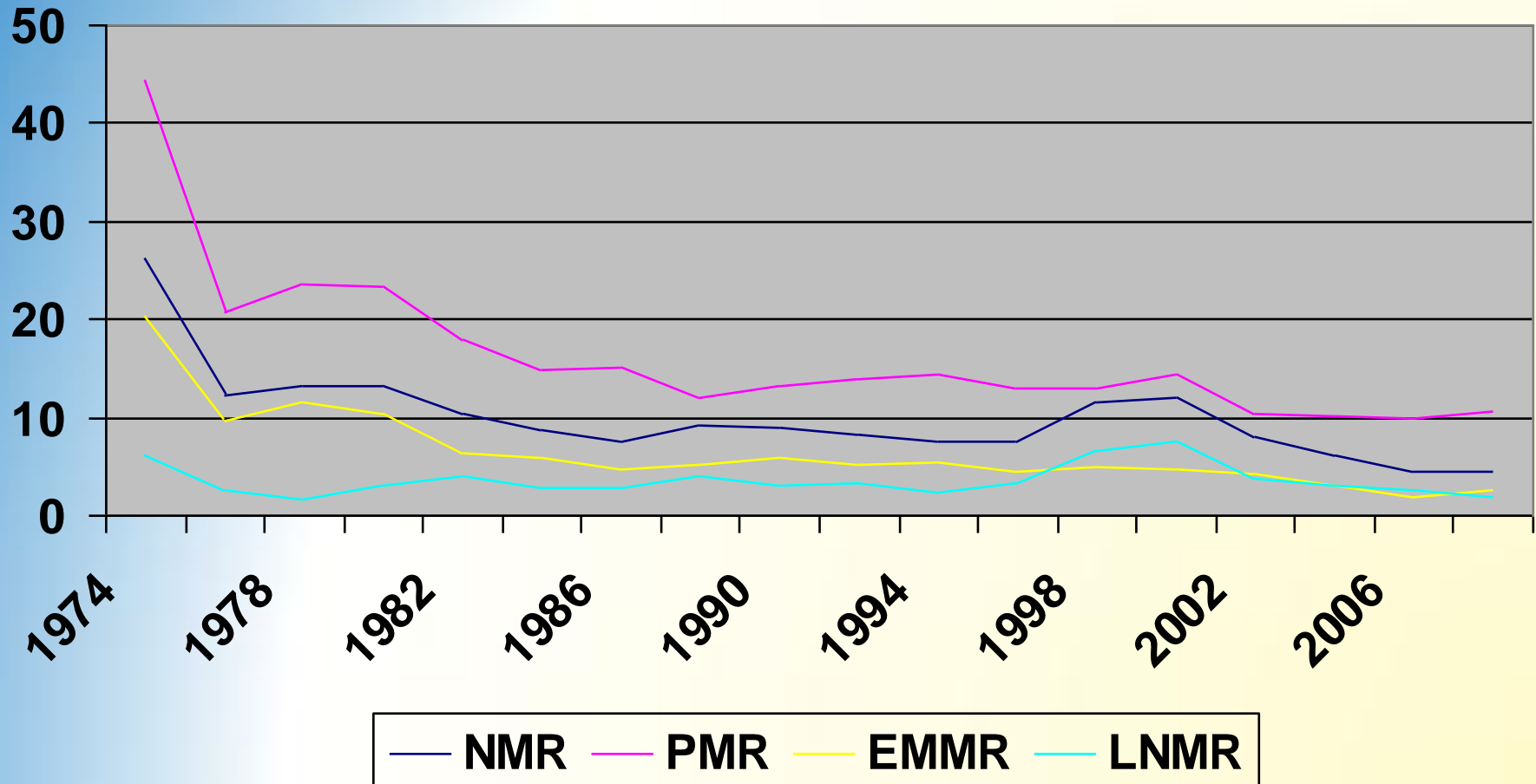
Source: World Health Statistics 2011 (WHO)



ORIGINAL ARTICLE

An analytic study of the trends in perinatal and neonatal mortality rates in the State of Qatar over a 30-year period (1977 to 2007): a comparative study with regional and developed countries

K Salameh^{1,2}, S Rahman^{1,2}, H Al-Rifai^{1,2}, A Masoud¹, S Lutfi^{1,2}, G Abdouh¹, F Omar¹, S ul Islam Khan¹ and A Bener^{3,4,5}



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Year	NMR	ENMR	LNMR
2008	5.0	2.3	2.7
2009	4.3	2.1	2.2

The Maternal, Neonatal and Perinatal Mortality Rates in Qatar are comparable with developed world countries

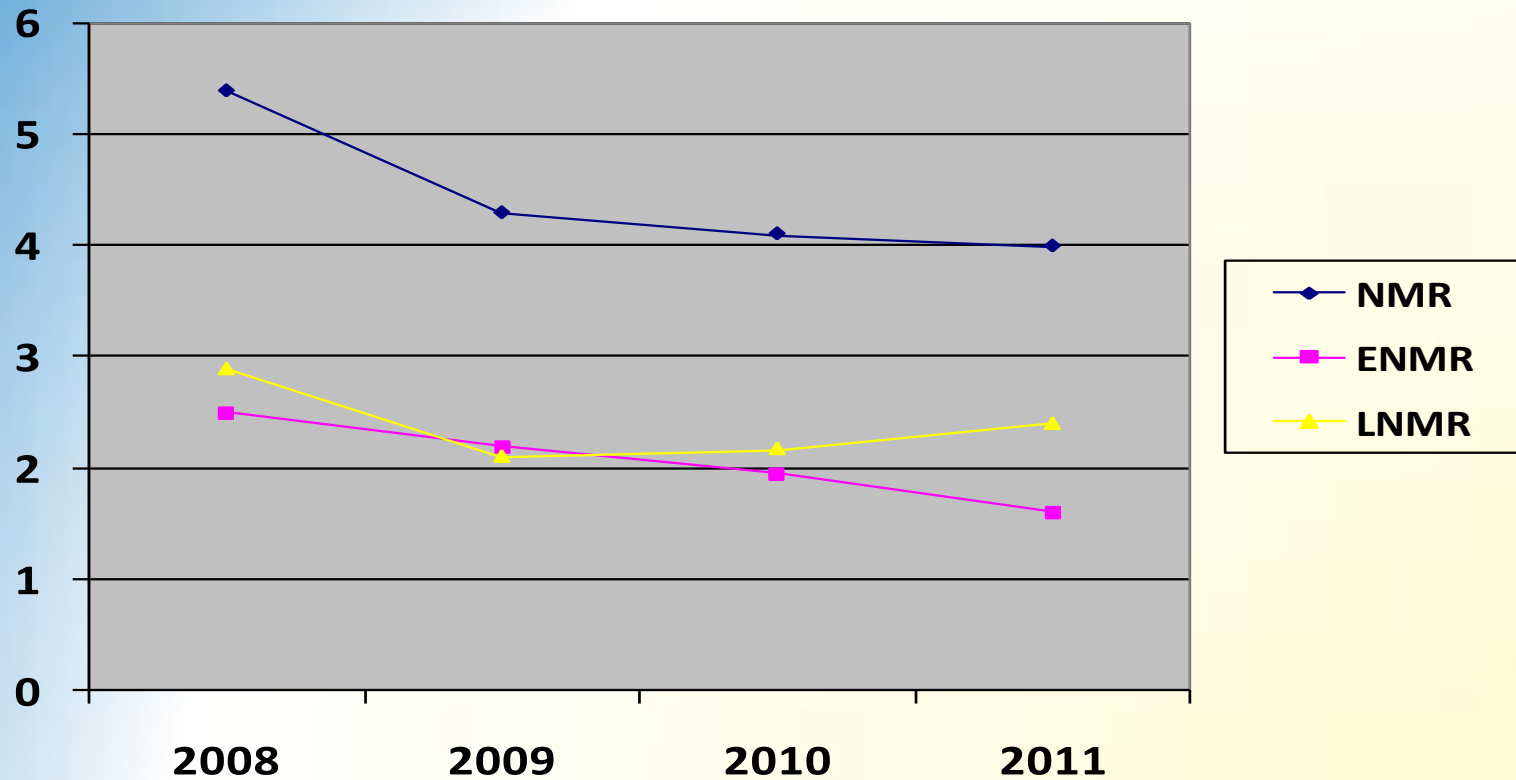
Original Article

Have Neonatal Mortality Rates in the State of Qatar become Static? A PEARL Study Analysis

Sajjad Rahman^{1,2}, Walid El Ansari³, Nuha Nimeri¹, Sarrah El Tinay⁴, Khalil Salameh¹, Tariq Abbas⁴, Mohammad Tahir Yousafzai⁵, Abdulbari Bener⁵

Accepted for Publication by EMHJ September 2011

Trends in NMR, ENMR and LNMR in Qatar 2008-2011



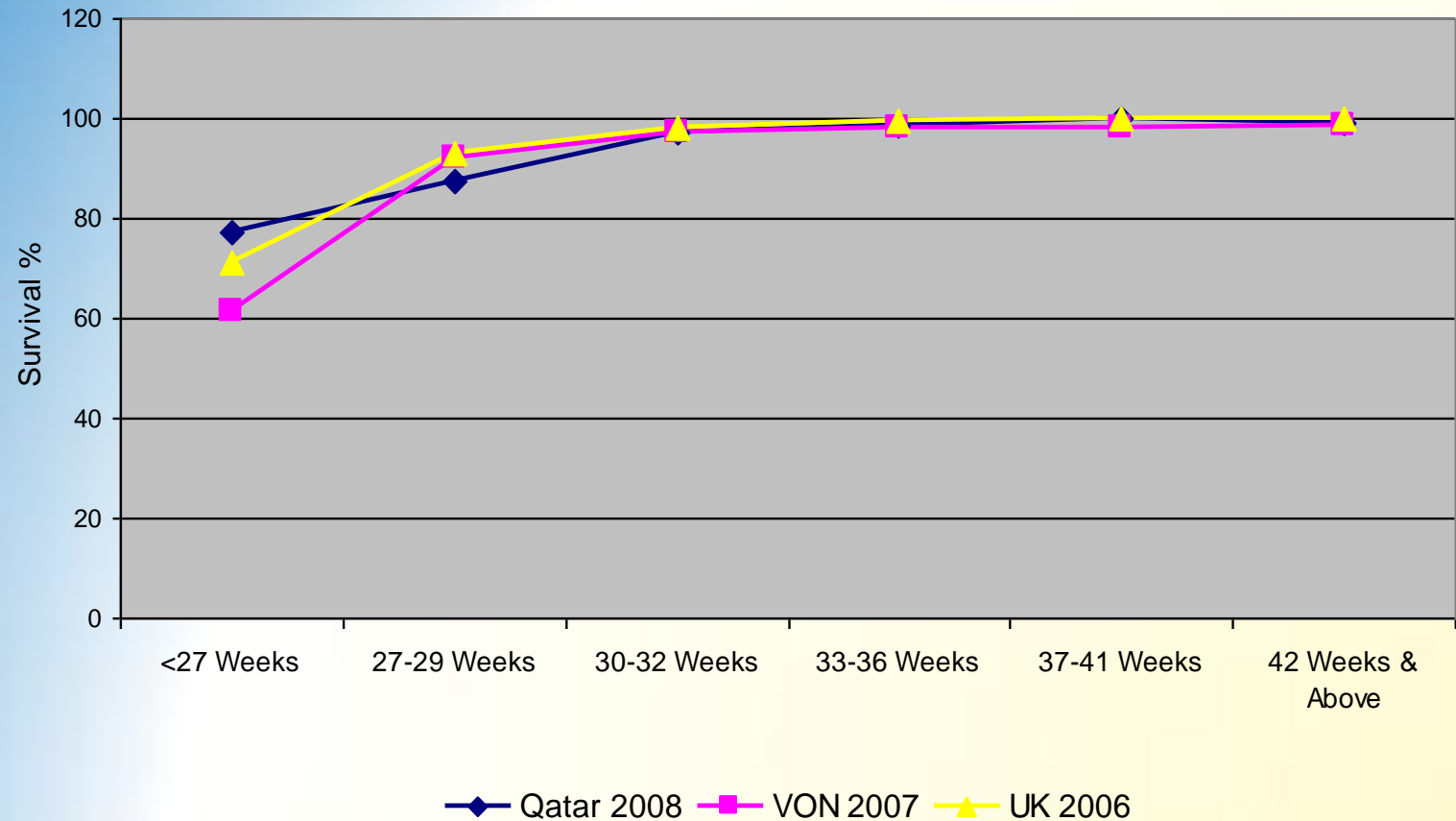
Relative Risk (RR) of Neonatal Mortality in Qatar 2008-2011

Mortality	RR	P-Value
NMR	0.94 (0.85-1.04)	0.269
ENMR	0.95 (0.81-1.11)	0.537
LNMR	0.94 (0.83-1.06)	0.356

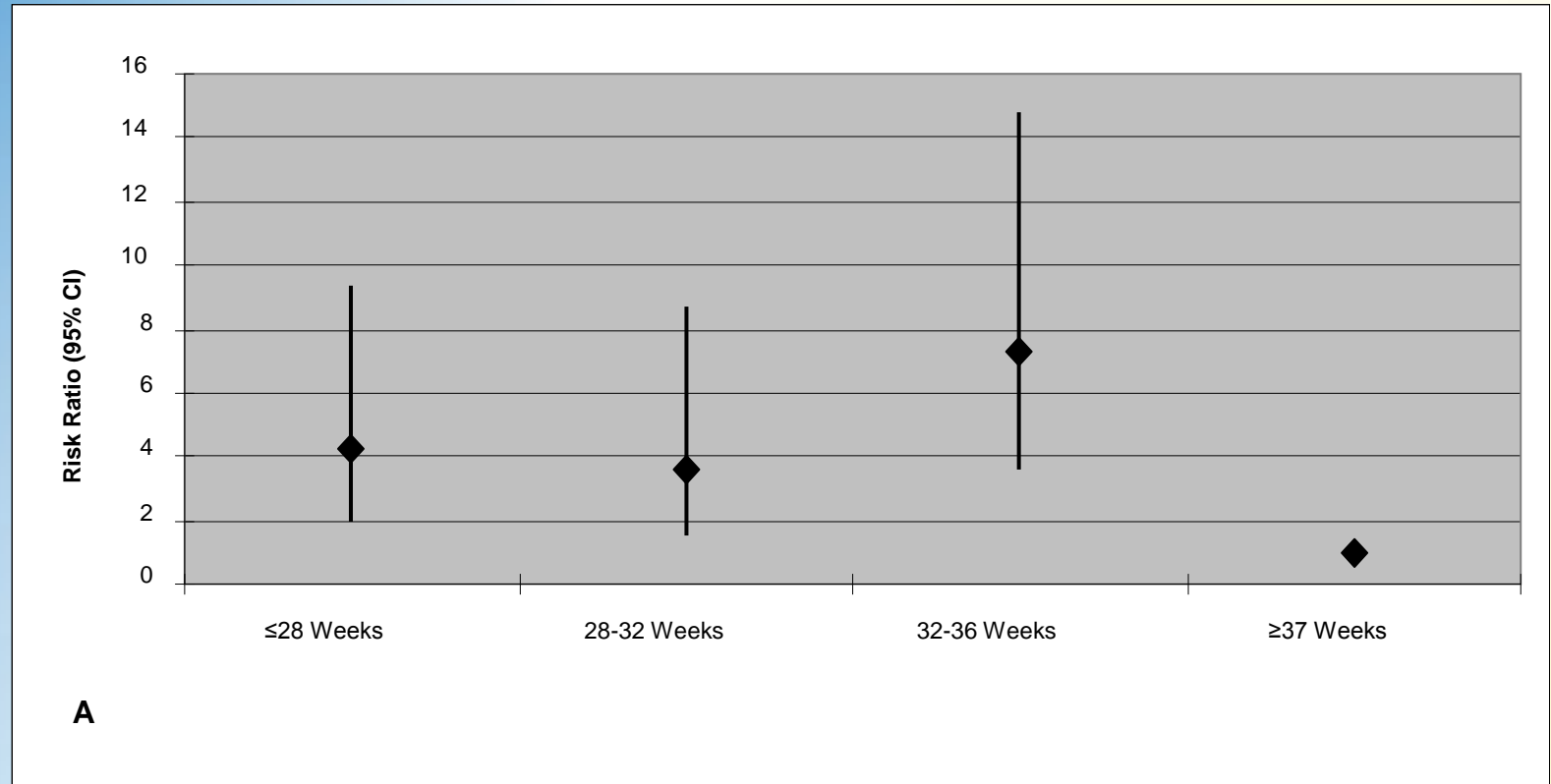
Gestational Age Specific Neonatal Survival in the State of Qatar (2003-2008) – A Comparative Study with International Benchmarks

Sajjad Rahman^{1,2}, Khalil Salameh¹, Hilal Al-Rifai^{1,2}, Ahmed Masoud¹, Samawal Lutfi^{1,2}, Husam Salama^{1,2}, Ghassan Abdoh¹, Fahmi Omar¹ and Abdulbari Bener^{2,3}

Gestational Age Specific % Survival Curves

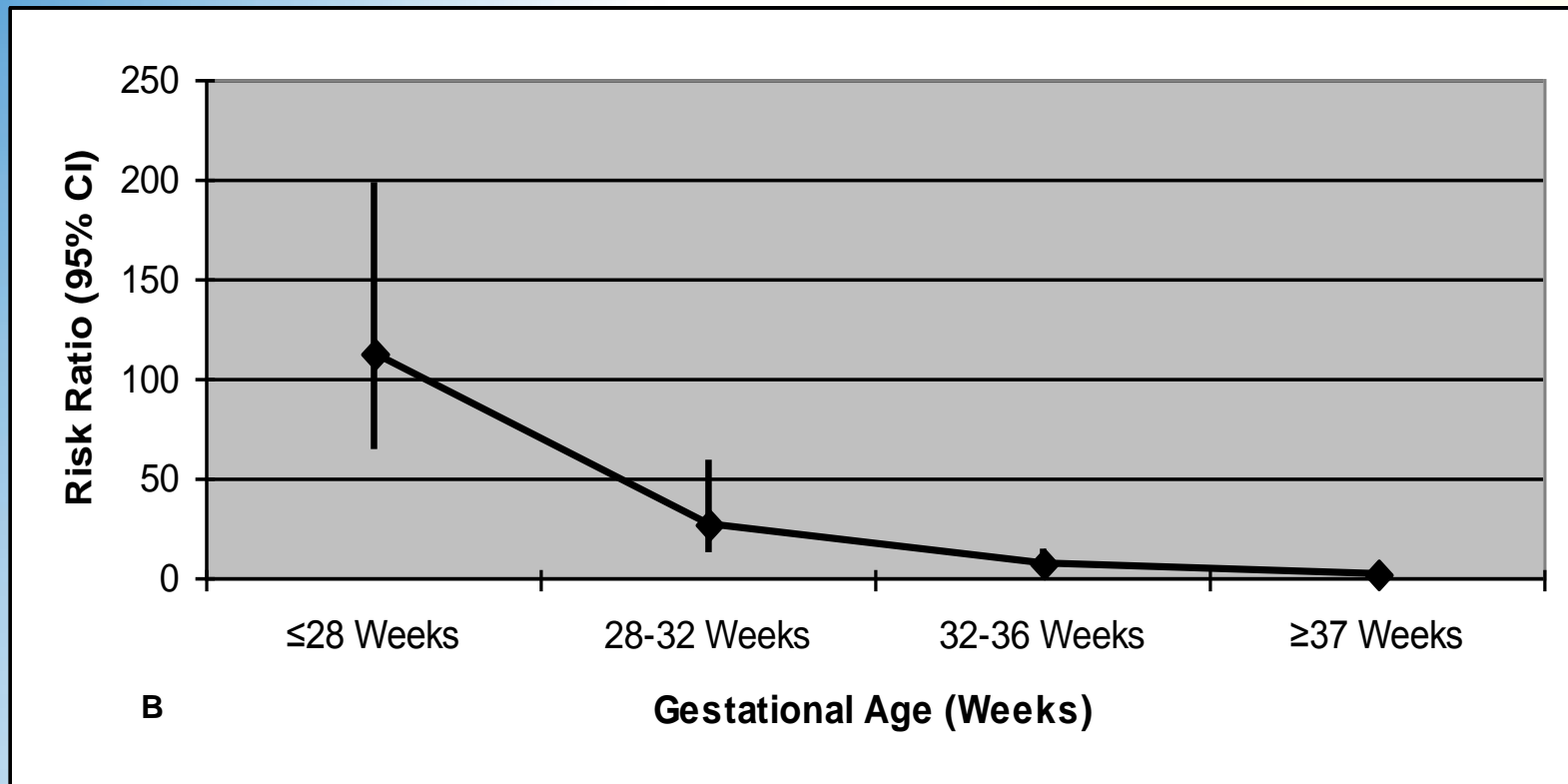


Gestational Age wise Relative Risk of death among babies in Qatar 2010



Relative risk calculated by taking immediate next category as reference

Gestational Age wise Relative Risk of death among babies in Qatar 2010



Relative risk calculated by taking Term babies (last category) as Reference

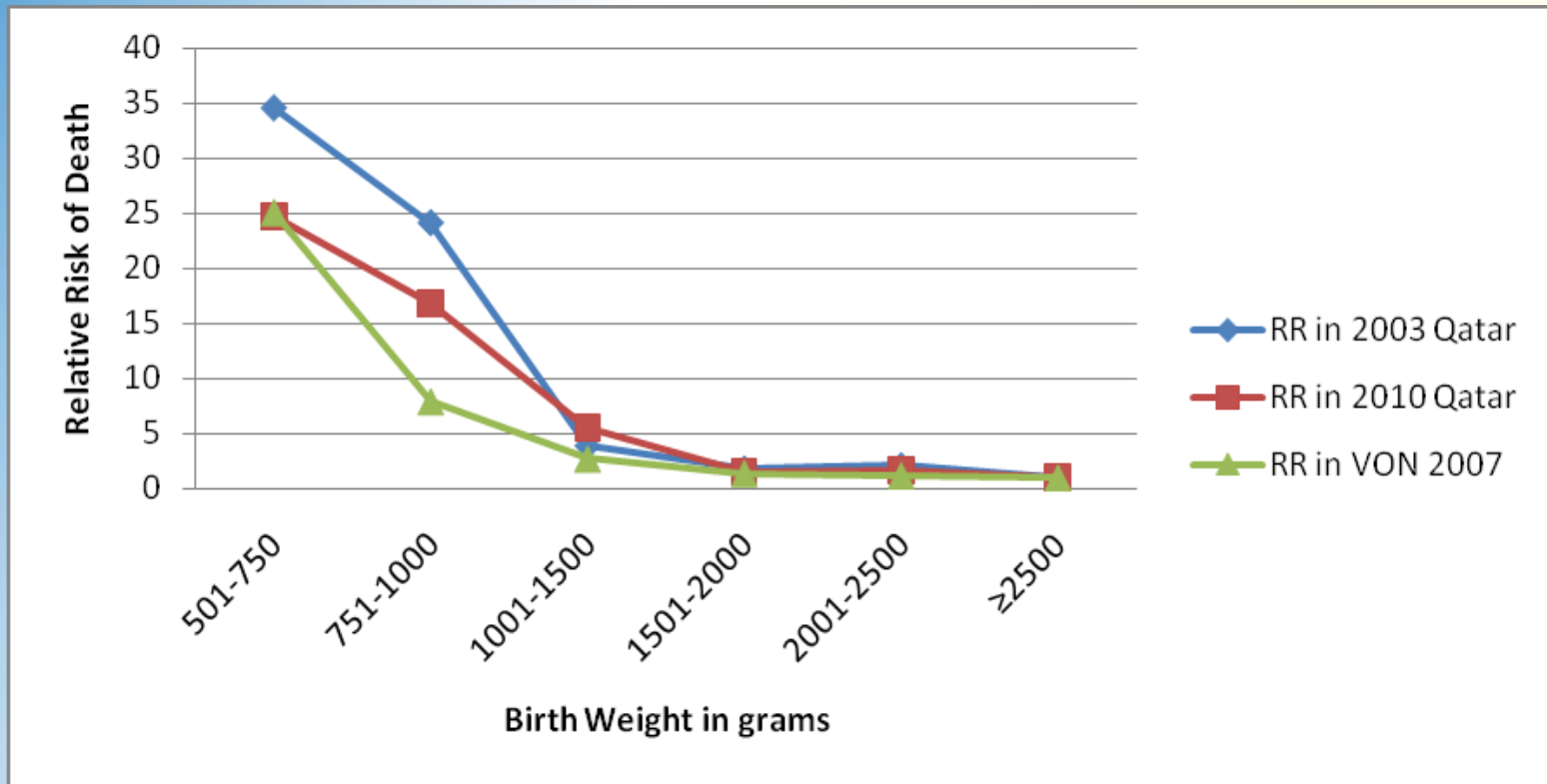
Original Article

**Trends in Birth Weight Specific Neonatal Mortality Rates in the
State of Qatar (2003-2010) and Comparative Analysis with
Vermont Oxford Network (VON) database report 2007
A PEARL Study review**

Khalil M K Salameh ¹, Sajjad U Rahman ^{1,2}

Accepted for Publication by Journal of Clinical Neonatology (JCN) October 2011

Trends in Gestational age specific Relative Risk of Neonatal Mortality Qatar 2003, Qatar 2010 and VON 2007



Reference group babies with birth weight ≥ 2500 g

Birth weight specific Neonatal Mortality

Qatar (2003) versus Qatar (2010)* &
Qatar (2010) versus VON (2007)**

Birth Weight in Grams	2003 n(%)	2010 n(%)	RR* (95% CI) <i>P-Value</i>	VON 2007 n(%)	RR** (95% CI) <i>P-Value</i>
501-750	17(73.9)	15(44.1)	0.6(0.4-0.9) 0.026	3938(44.4)	1.0(0.7-1.5) 0.953
751-1000	16(51.6)	15(30)	0.5(0.3-0.9) 0.05	1668(14.2)	0.6(0.3-0.7) 0.001
1001-1500	10(8.5)	16(9.8)	1.2(0.5-2.5) 0.706	1366(4.9)	0.5(0.3-0.8) 0.003
1501-2000	6(3.7)	7(2.7)	0.7(0.2-2.0) 0.523	340(2.5)	0.9(0.5-1.9) 0.856
2001-2500	9(4.5)	9(3)	0.7(0.3-1.7) 0.385	356(2.2)	0.7(0.4-1.4) 0.305
≥2500	23(2.1)	17(1.7)	0.8(0.5-1.6) 0.561	762(1.7)	0.9(0.6-1.6) 0.952
Total	81(5.0)	79(4.4)	0.8(0.7-1.2) 0.443	8430(6.9)	1.5(1.2-1.9) <0.001

The RR of Mortality for each birth weight category
as compared with normal birth weight ($\geq 2500\text{g}$) category:
Qatar (2010) and VON (2007) data

Birth Weight in Grams	2010 N(%)	RR(95% CI) * <i>P-Value</i>	VON 2007 N(%)	RR(95% CI)** <i>P-Value</i>
501-750	15(44.1)	24.7(13.5-45.4) <0.001	3938(44.4)	25.1(23.6-27.4) <0.001
751-1000	15(30)	16.8(8.9-31.7) <0.001	1668(14.2)	7.9(7.4-8.8) <0.001
1001-1500	16(9.8)	5.5(2.8-10.7) <0.001	1366(4.9)	2.7(2.6-3.1) <0.001
1501-2000	7(2.7)	1.5(0.6-3.6) 0.357	340(2.5)	1.4(1.3-1.6) <0.001
2001-2500	9(3)	1.7(1.1-5.5) 0.053	356(2.2)	1.2(1.1-1.4) 0.001
≥ 2500	17(1.7)	1	762(1.7)	1

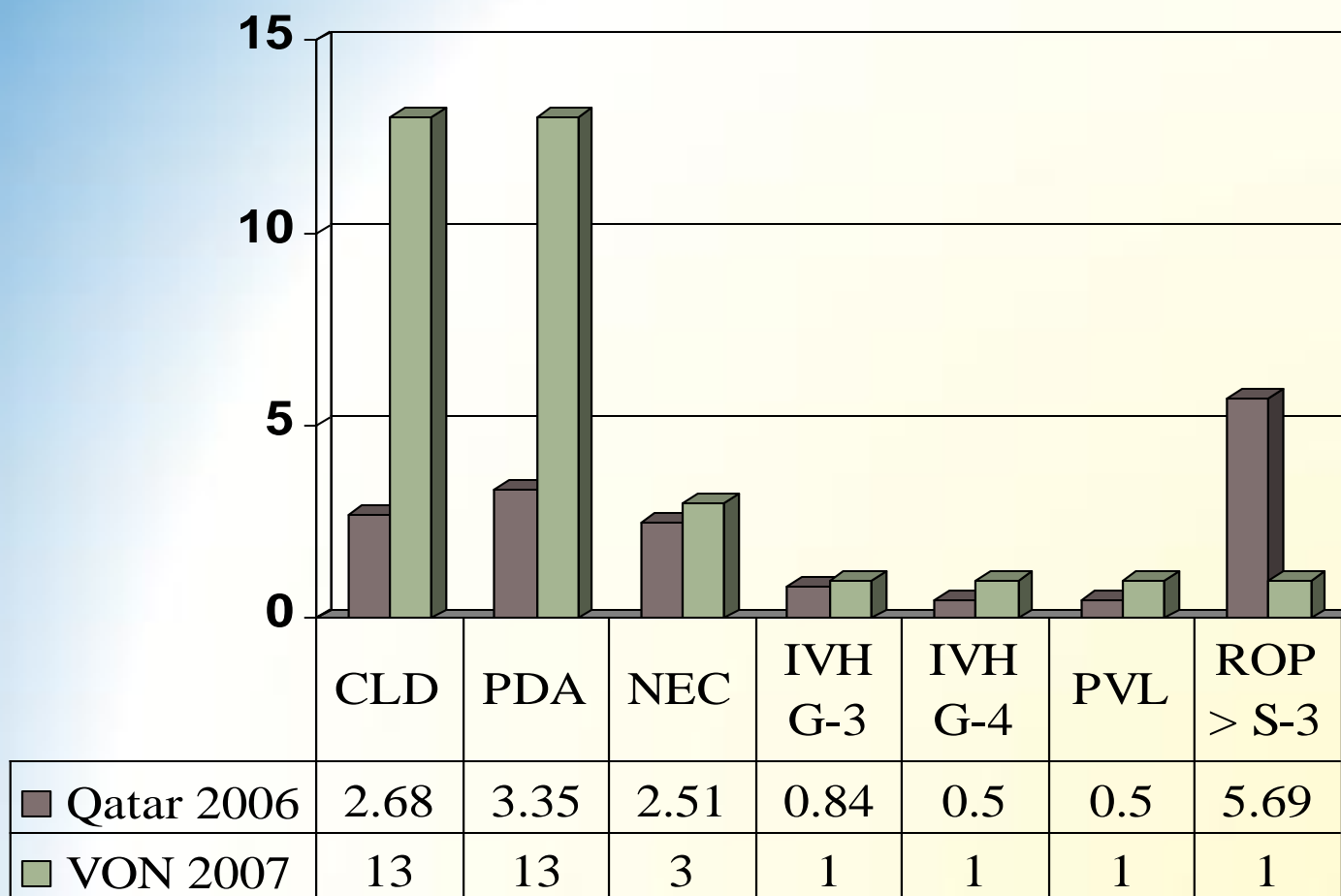
Article

Outcomes of 28⁺¹ to 32⁺⁰ Weeks Gestation Babies in the State of Qatar: Finding Facility-Based Cost Effective Options for Improving the Survival of Preterm Neonates in Low Income Countries

Hussain Parappil ^{1,2}, Sajjad Rahman ^{1,2,*}, Husam Salama ^{1,2}, Hilal Al Rifai ^{1,2}, Najeeb Kesavath Parambil ^{1,2} and Walid El Ansari ³

The short term morbidities of moderately preterm babies in Qatar are comparable to Vermont Oxford Network database

Morbidity Outcome (28-32 Weeks) Qatar Vs Vermont Oxford Network (VON)



$P < 0.001$

$P > 0.05$

$P < 0.0001$

Survival of Extremely Premature Infants at the Largest MOH Referral Hospital in UAE: Comparable Results to Developed Countries

Hakam Yaseen, Hoda Yaseen

Journal of Pediatric Sciences 2010;2(2):e18

Conclusion

Neonatal mortality rate at Al Qassimi Hospital, which is the largest referral center among UAE Ministry of Health hospitals, is 3.8 per 1000 live births. Survival of extremely preterm infant's ≤ 25 WG was $\geq 50\%$ over the last 3 years. These results are comparable to the published data from different developed countries.

Short-Term Outcome of Very Low Birth Weight Infants in a Developing Country: Comparison with the Vermont Oxford Network

Fares Chedid, Suhair Shanteer, Habib Haddad, Iram Musharraf, Zuhair Shihab, Ahmad Imran, Hossam Abou Adma, Nada Salman, and Aiman Rahmani

Tawam University Hospital in Association with Johns Hopkins International,
Al Ain, Abu Dhabi, UAE

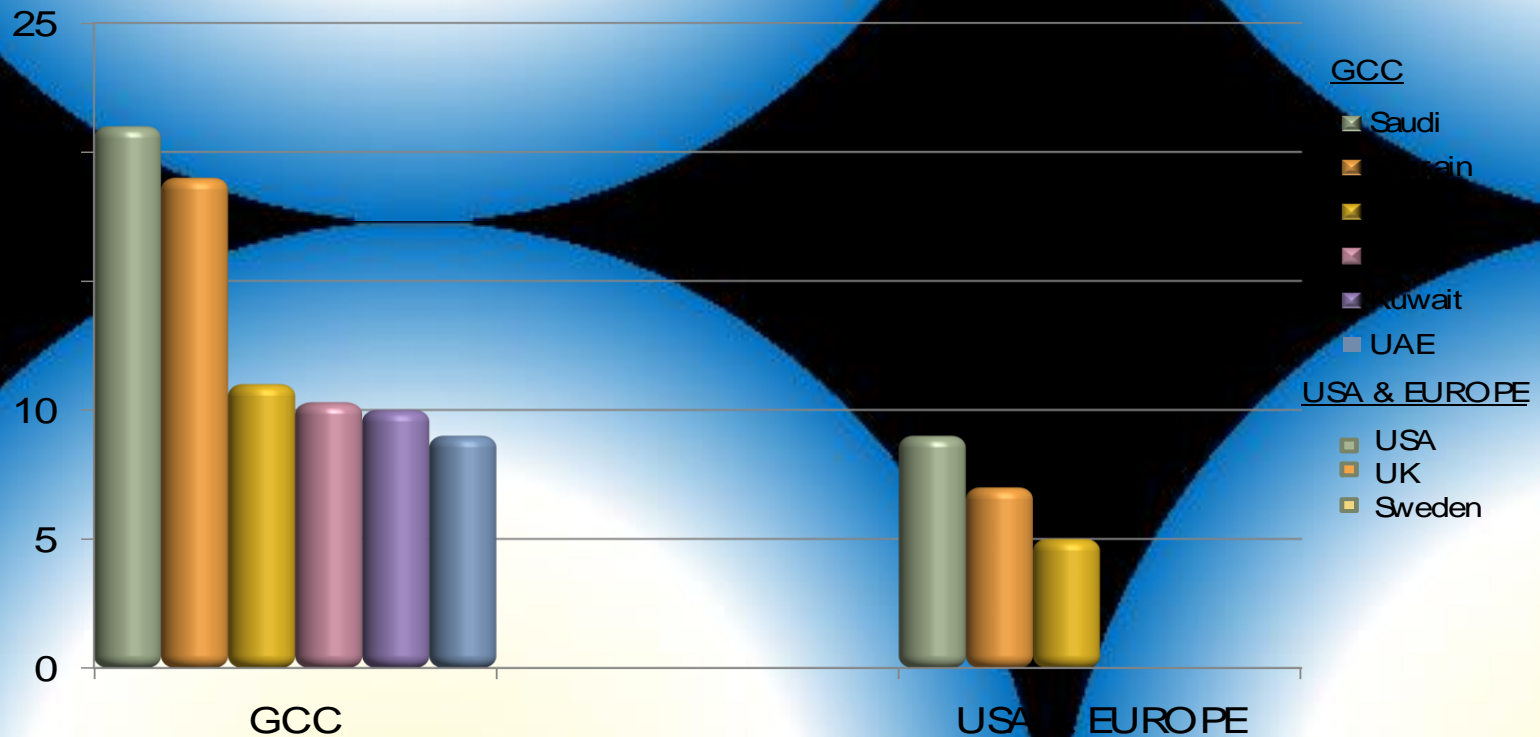
Journal of Tropical Pediatrics 2008; 55(1):15-19

Conclusions

The Rates of CLD, IVH and ROP were ≤ 25 th percentile of the VON and mortality, NEC and PVL were in the 50th percentile.

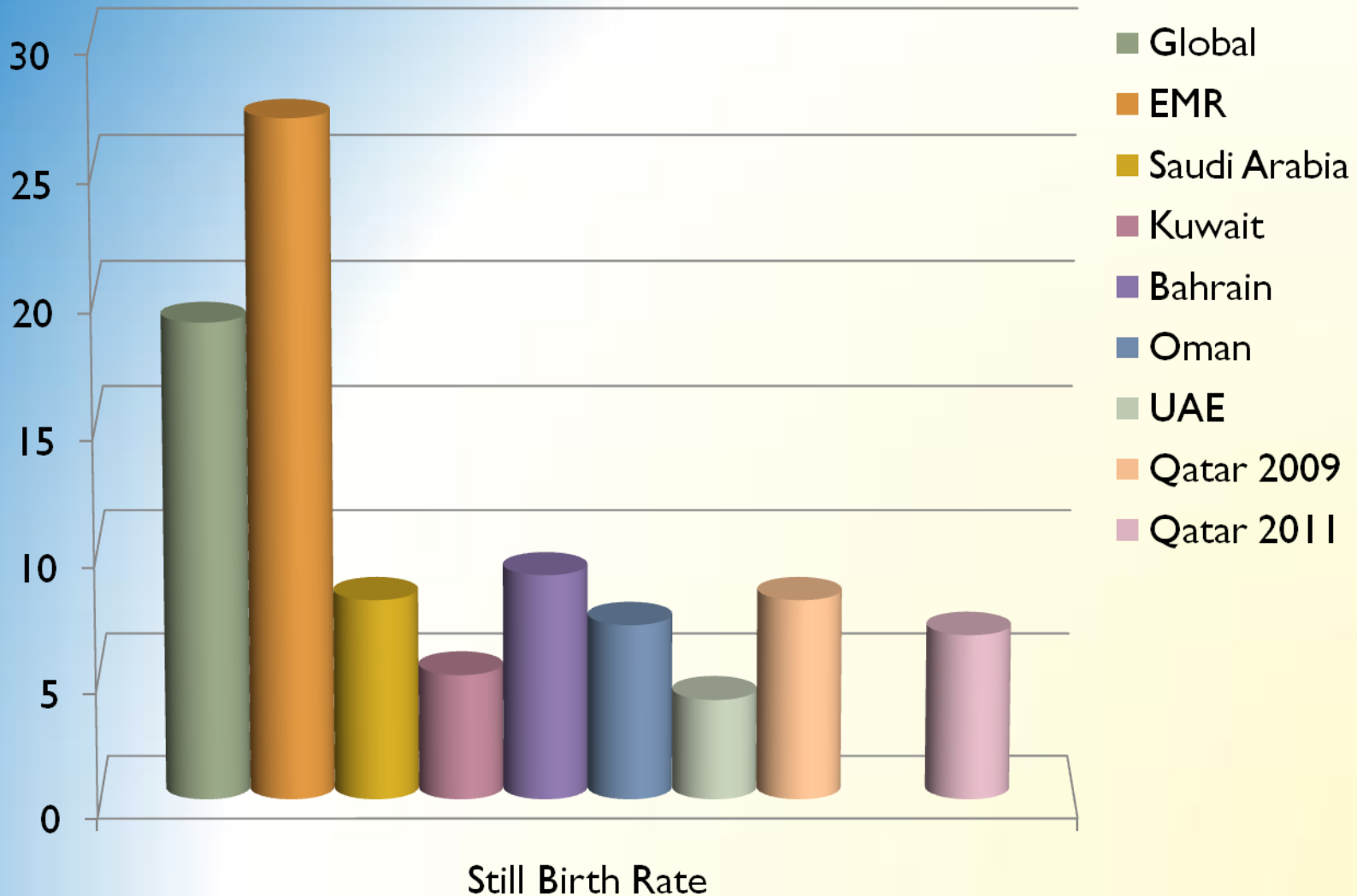
Perinatal Mortality Rates

GCC versus USA and Europe



Still Birth Rate

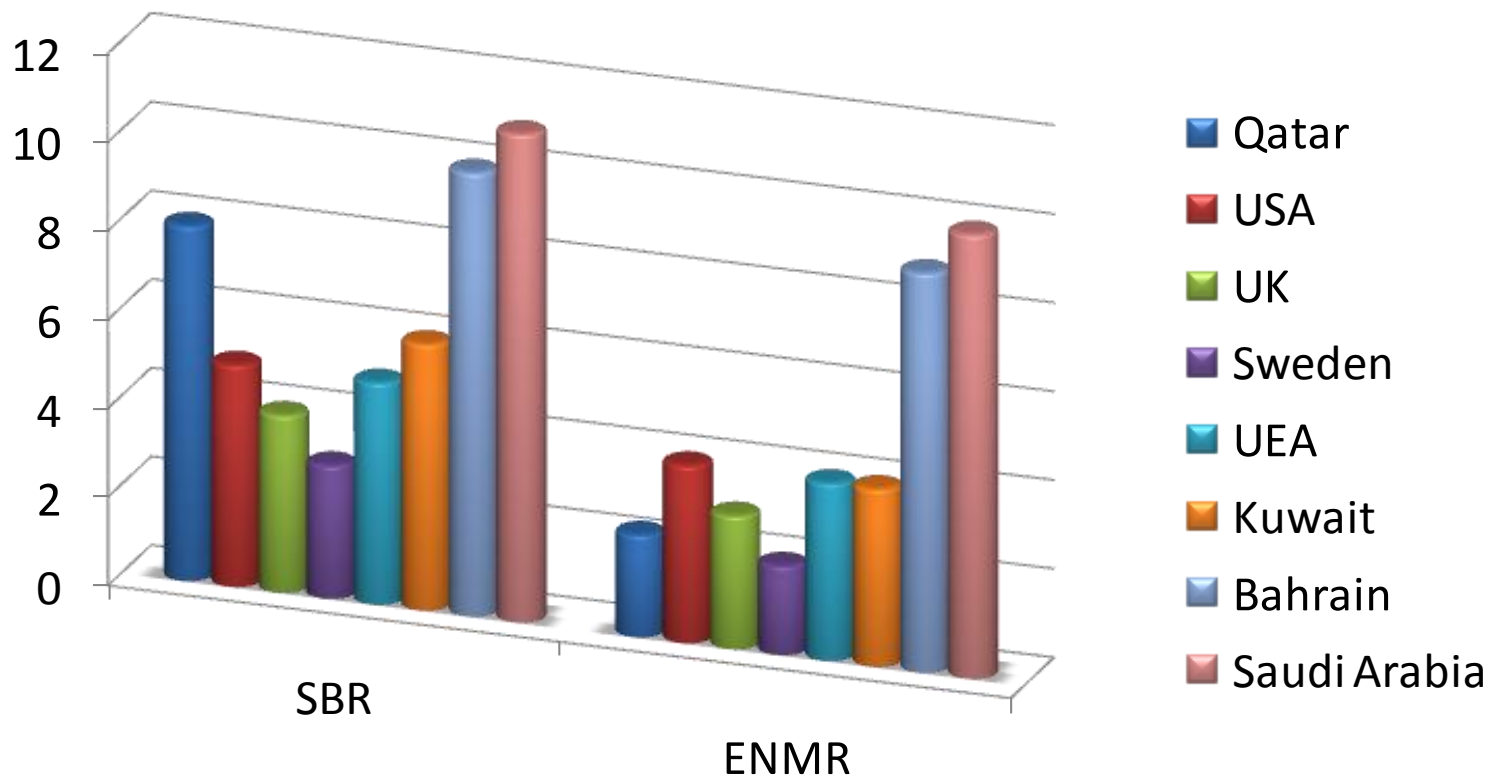
Global & GCC 2009 & Qatar 2011



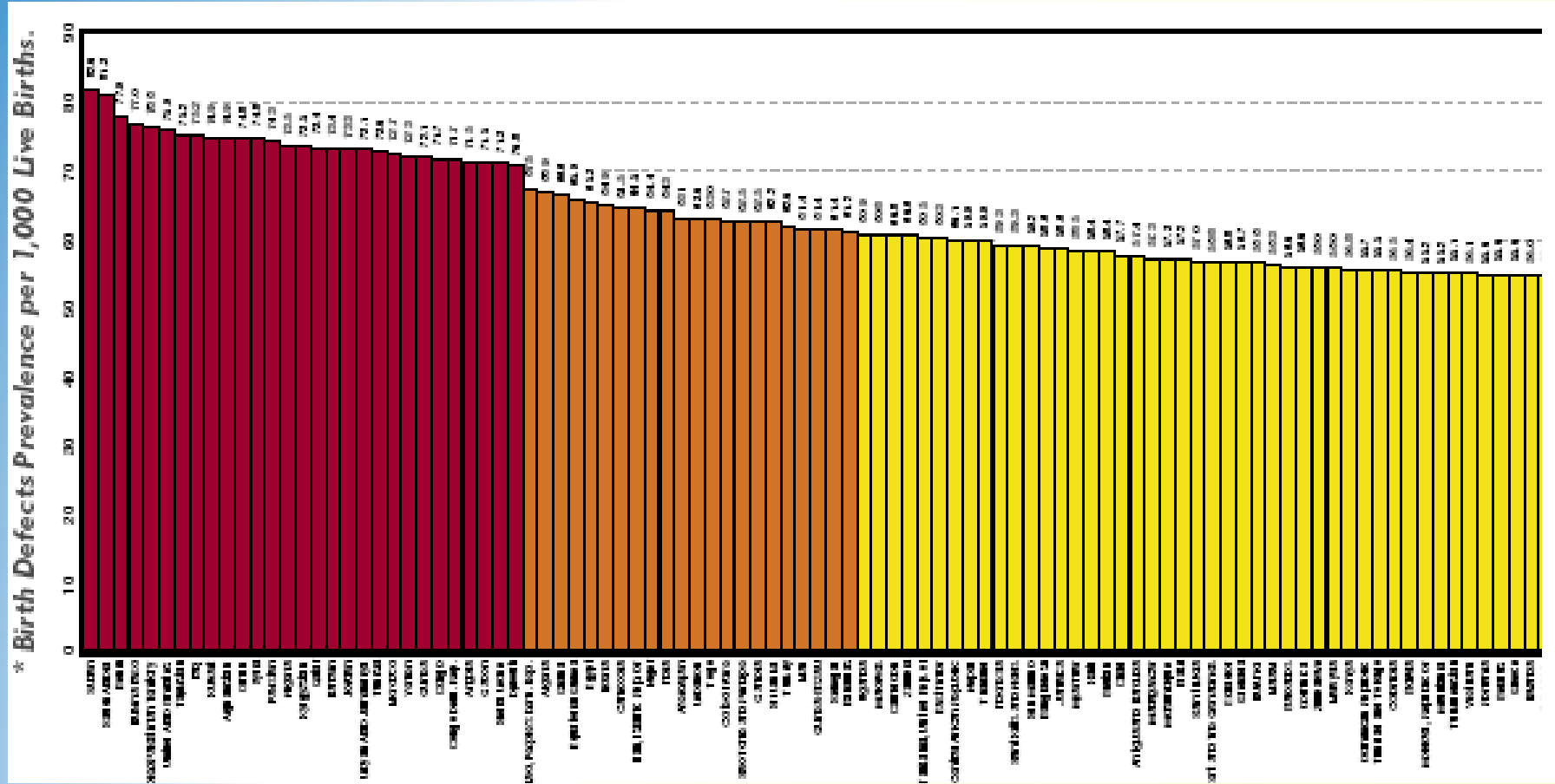
Perinatal Mortality Rate

GCC Versus Developed World 2007

J Perinatology 2009; 1-6



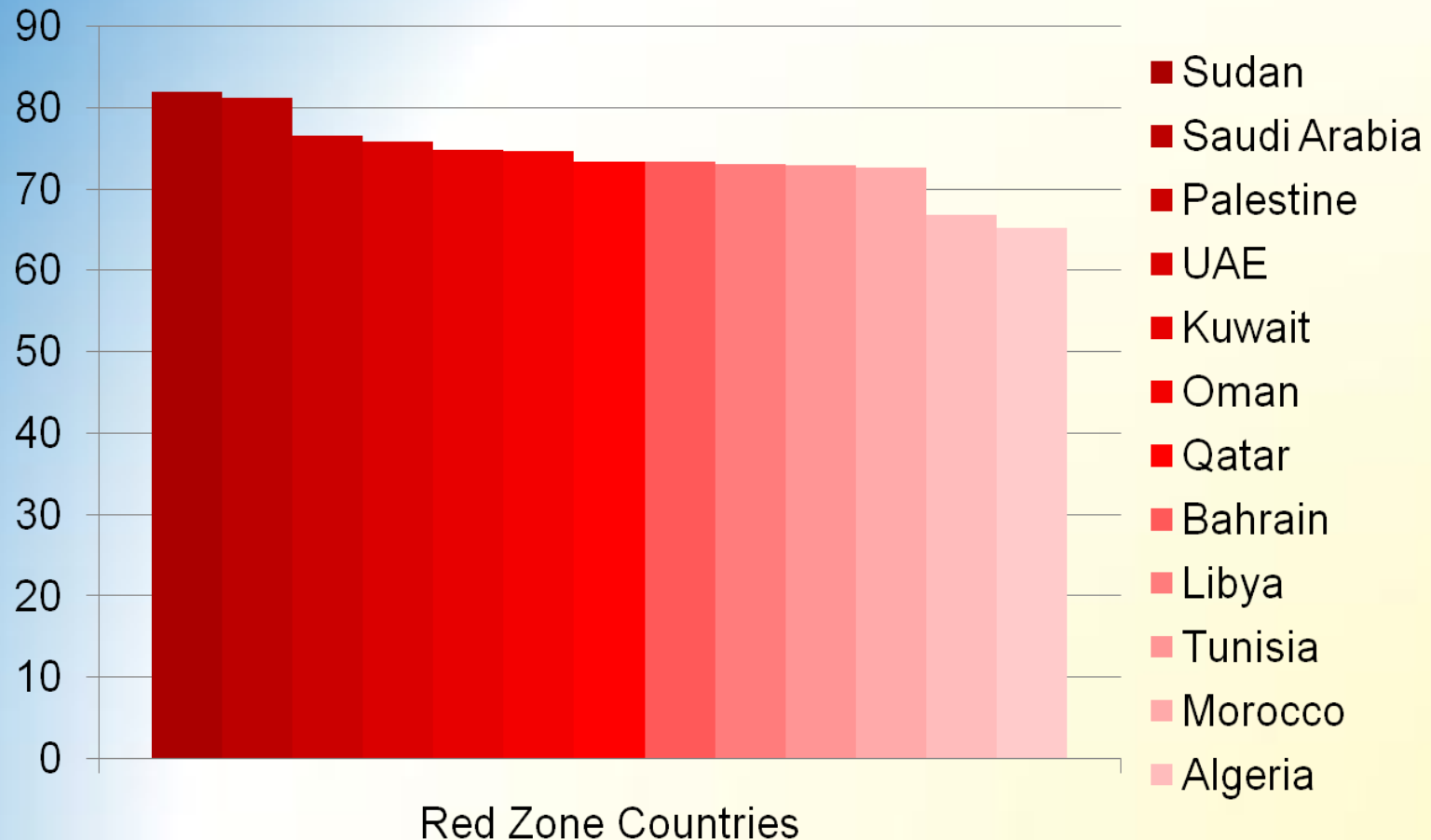
March of Dimes Global Birth defects Report 2006



Incidence of Birth Defects

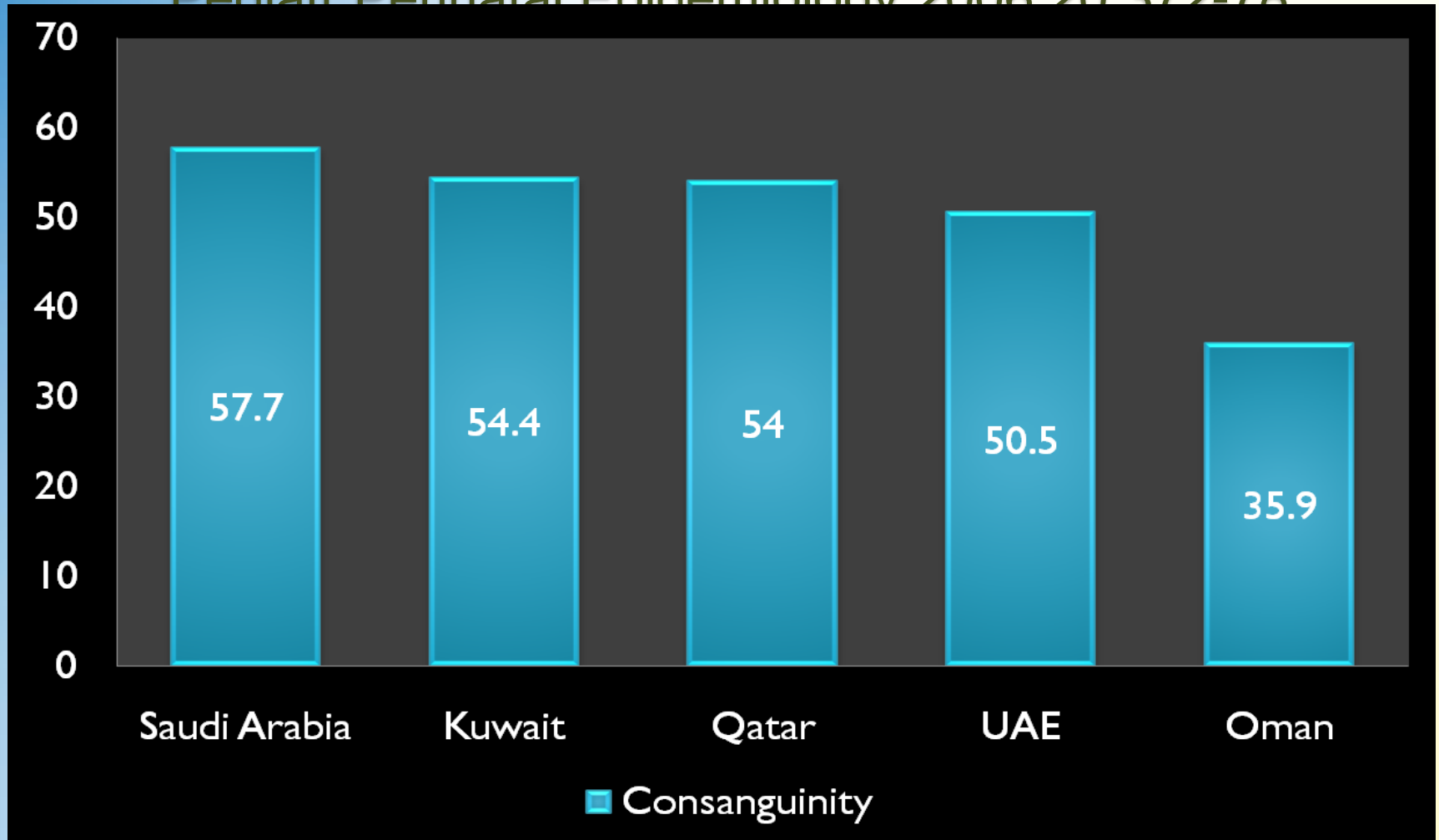
MENA Region

March of Dimes Global Birth defects Report 2006



The incidence of Consanguinity in GCC

Pediatr Perinatal Epidemiology 2006;20:372-78



Conclusions

- ❖ Maternal and Neonatal Mortality &
- ❖ Short term Neonatal Morbidity outcomes

in GCC are comparable with most high income countries

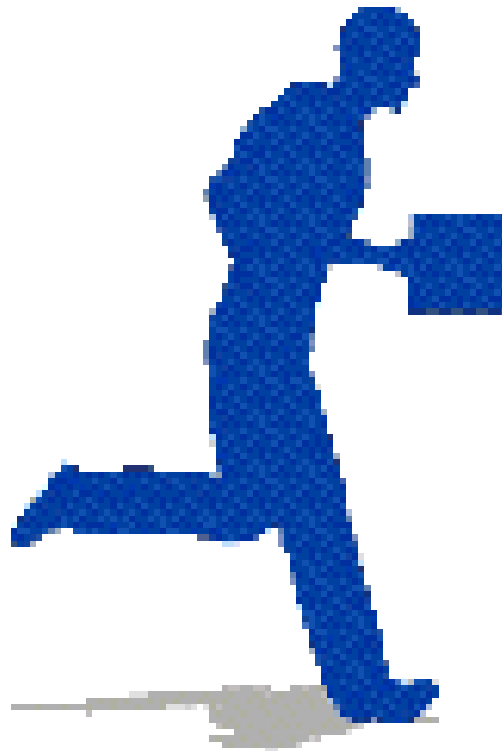
- ❖ High incidence of congenital anomalies
- ❖ High incidence of still birth and hence, high PMR &
 - ❖ High rate of Low Birth Weight

Remain a Major Research and Management Challenge

G-Peristat Project

- Joint Collaborative Epidemiologic Research Project
 - ❖ Institutions in six GCC countries &
 - ❖ Europeristat Project (INERM – France)
- Funding QNRF (5th Cycle)
- Duration 3 years (2012-2015)
- Outcome Measures: Maternal, Neonatal & Perinatal Mortality and Morbidity Outcomes & their Correlates

Future is NOT a Gift
It's an Achievement



**The greatest pleasure in life
is doing what people say you can't**



Qatar 2010

Doha Corniche at Night



Thank You

