

International Orphanages

A medical prospective

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Overview

- Medical prospective on children from and within orphanages from around the world
- On arrival into the US, children are delayed in their development
- Children are delayed due multiple factors
 - Issues related to pre-orphanage
 - Problems within the orphanage



Orphans around the world

- Estimates of children who are “orphans” varies worldwide from 13-210 million children. UNICEF estimate 143 million
- Number of children in orphanages vary by country
 - Africa very low percent
 - Russia 25%
- World-wide estimates 8-25 million children living in orphanages.

Why are children “orphans”

- In most of the world, children are “social orphans”
 - Eastern Europe: Abuse, neglect, alcohol, unwanted pregnancies, physical deformities, societal expectations.
 - China: Misfortune of being female
 - Korea, Central America, others: unmarried woman
- Africa many are “true orphans” due to AIDS

Orphans in Africa

Number of orphans due to AIDS, alive in 2005

<u>South Africa</u>	1,200,000
Tanzania	1,100,000
<u>Zimbabwe</u>	1,100,000
Kenya	1,100,000
<u>Uganda</u>	1,000,000
<u>Nigeria</u>	930,000
<u>Zambia</u>	710,000
DR Congo	680,000
<u>Malawi</u>	550,000

AIDS orphans as a percentage of all orphans, 2005

Zimbabwe	77%
<u>Botswana</u>	76%
<u>Swaziland</u>	66%
Lesotho	64%
Malawi	57%
Zambia	57%
South Africa	49%
Kenya	46%
Uganda	45%

Orphanages some facts per country

- Romania ~50,000 940 orphanages
- Russia ~700,000 ? orphanages
- Ukraine >300 orphanages
- Rwanda ~400,000 only 5,000 in care
- Kenya 228 orphanages
- China ? Est over 100,000 children with <20,000 “official” orphans

Outcomes of Orphanages

- Orphanages are in general bad for children
- Increased developmental delays seen
 - Within orphanages
 - Children following their adoption from orphanages

Orphan System: Romania

- Romanian orphanages housed an estimated 300,000 children
- Variable reason for placement in orphanages
 - poverty, abuse, abandonment, physical deformities, “society’s expectations”



Orphan System: Romania

- Birth to 3 year children housed in facilities called *leagane* (4 years in Russia)
 - variable facilities
 - inadequate food, clothing and shelter
 - Child to Caregiver ratio up to 60:1
 - Meals and interactions severely regimented















Orphan System: Romania

- At 3 years of age brief examination at “switching” center
- If physically and developmentally “normal”, placed in institution with limited education and medical service: 60% of children
- If incapable of working then placed in an asylum for the *nerecuperabili* (incurables): 20-30%

Orphan System: Romania

- Asylums had minimal cold, rotten food
- Facilities usually unheated
- Children receive no medical, educational or rehabilitation services
- Sanitation and personal hygiene generally ignored
- High mortality rate (25 to 50% per year)















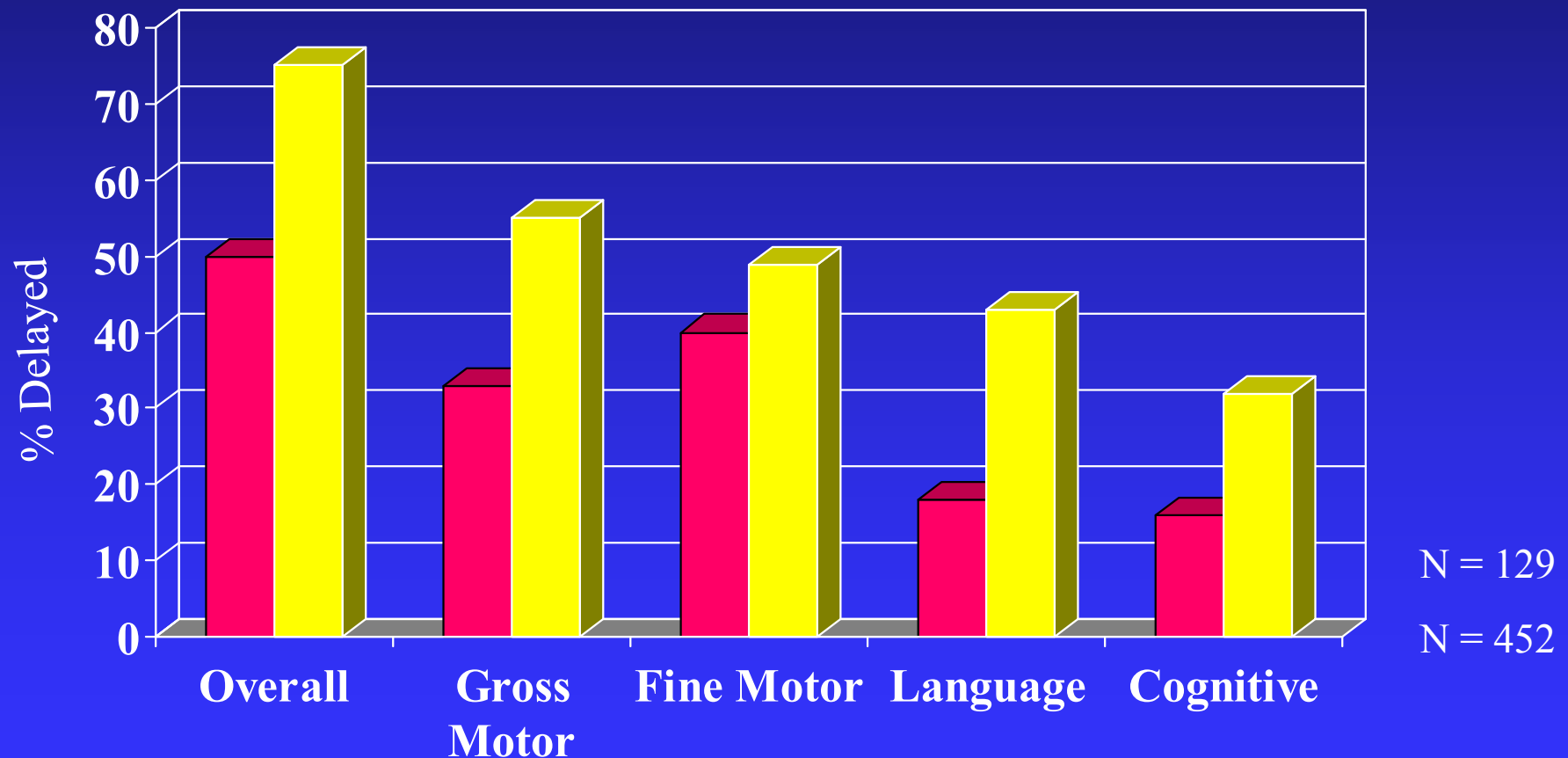
Orphan System: Romania 1997

- Total institutionalized **98,872**
 - Nursery 9,309
 - Center for Minors (acute care) 379
 - Hospital homes 4,473
 - Children homes (good health) 35,165
 - Schools for special needs (develop delays) 47,107
 - Other (private) 2,439
- 14% orphans
- 35% have no contact with family
- 75% in special needs “school”
- **44,000 request for placement/year**
- Mortality rate
 - >25% in nursery
 - >29% in hospital homes

Children Upon Arrival Experience Developmental Delays

- Mason et al (2000) found 81% of families report significant behavioral and developmental problems upon arrival
- Johnson et al (2007) found children with significant medical (73%) and behavioral & developmental (54%) problems at adoption

Developmental Delays in the Post Adopted Child



Miller et al Arch Ped Adol Med 1995, 149:40-44

Miller and Hendrie, Peds, 2000, e76

Why are children delayed?

- Pre Orphanage factors
 - Poor prenatal conditions
 - genetics
 - prenatal exposures (alcohol and drug use)
 - Greater birth problems
 - home deliveries,
 - lack of prenatal care
 - prematurity
 - Poor social conditions
 - poverty
 - abuse, abandonment
 - physical deformities



Why are children delayed?



- Orphanage factors
 - High child-caregiver ratio
 - Lack of food and medical care
 - Lack of consistent caretakers

What does an orphanage look like?

What does an orphanage look like?



A high child to caregiver ratio

What does an orphanage look like?



Meals are often very regimented

What does an orphanage look like?



Children often left on their own without supervision

What does an orphanage look like?



Lack of consistent caregivers



Meals often poor in nutrition
and very regimented in timing



Many children get little stimulation





Children generally have few possessions and little stimulation. There is generally little education





Caregivers are not trained in child development and have a high turnover rate

Why are there delays?

Pre Orphanage

Miller et al (2006) Chart review of 193 children in an orphanage in Russia (age range 2-72 months)

- Maternal history

- Chronic illness 45 %
- Tobacco 41 %
- Alcohol 39 %
- Illicit drugs 7 %

Assessment of newly adopted children (U of Minn. and Inova) (Kroupina et al 2006)

- High rate of Fetal Alcohol Syndrome exposure for children from Russia with 15% of newly adopted children showing facial features of FAS

Why are there delays?

Orphanage Factors

- High rates of child to caregiver ratios (10-20:1)
- Miller et al (2006) “Time use” study within the orphanage
 - Followed 138 non-special needs children (age 1 month to 4 years)
 - Evaluated every 10 minutes for 5 hours
- Children overall spent 50% of their time alone and only 27% with caregiver
- Children spent significant time alone
 - Infants (65%), toddlers (43%), preschoolers (46%)

Significant Growth Retardation

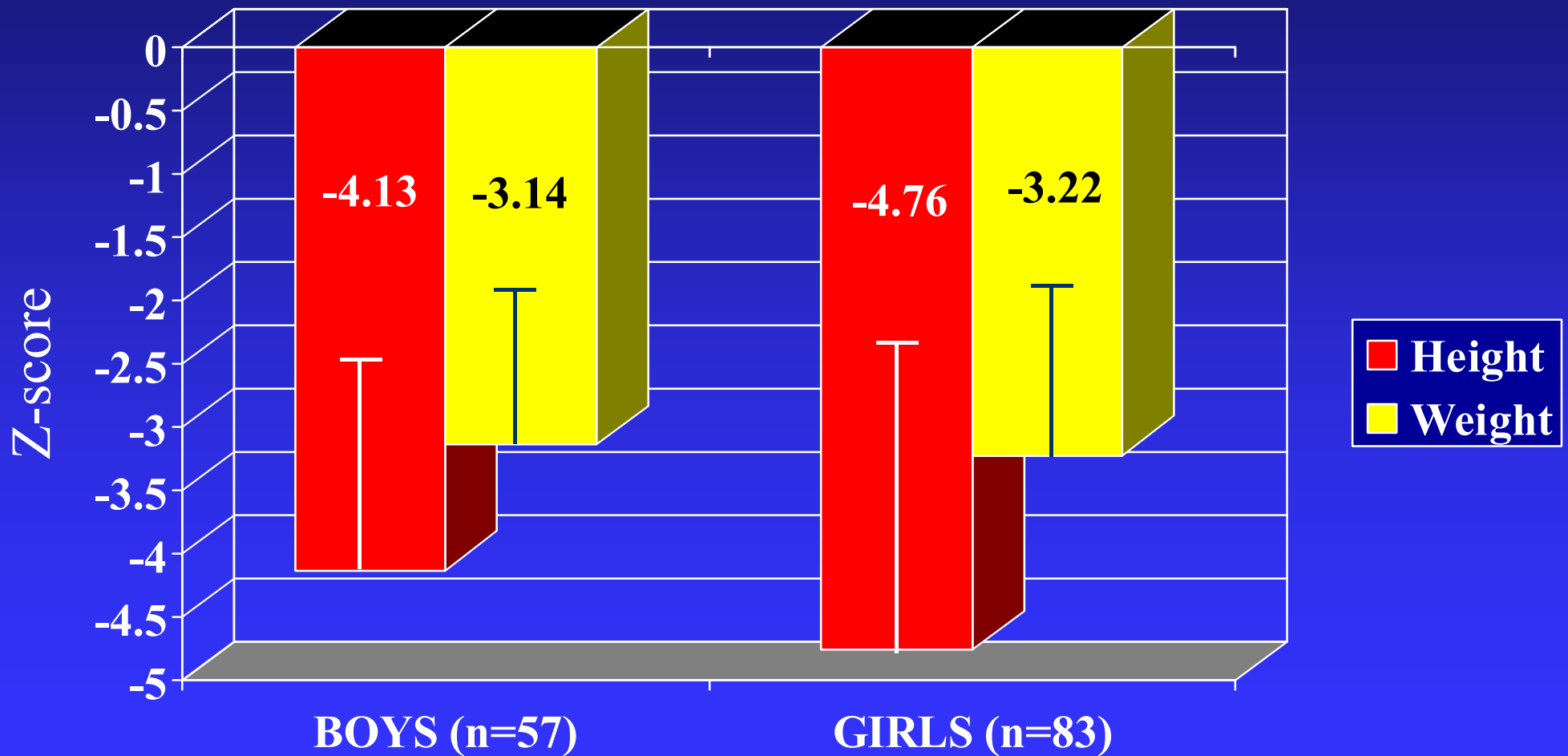
- Miller et al (2006) showed significant growth stunting
 - 34% had poor weight gain
 - 25% had profound height stunting
 - 34% had poor head growth



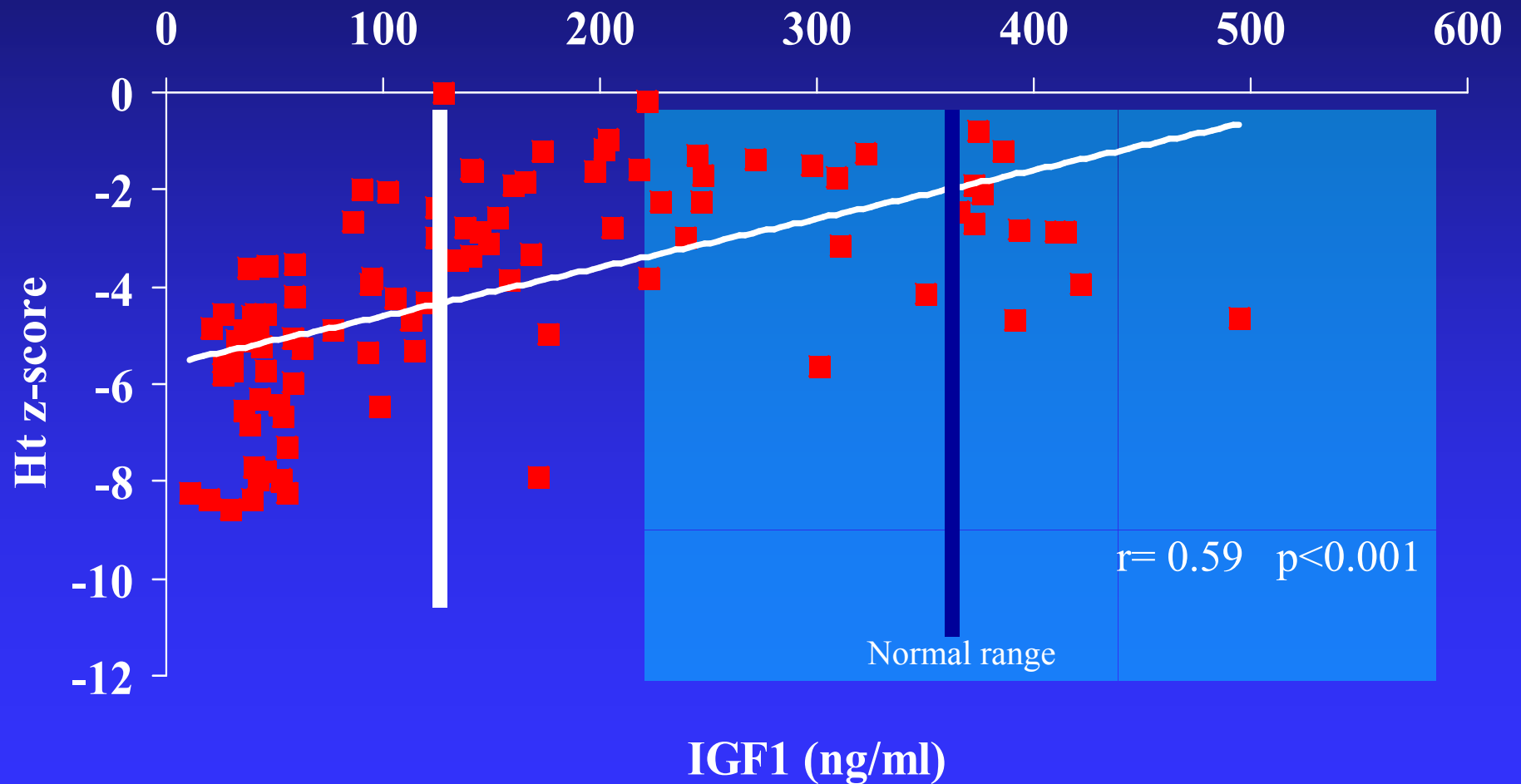
Romanian Growth Project



Growth Stunting in Romanian Orphanages

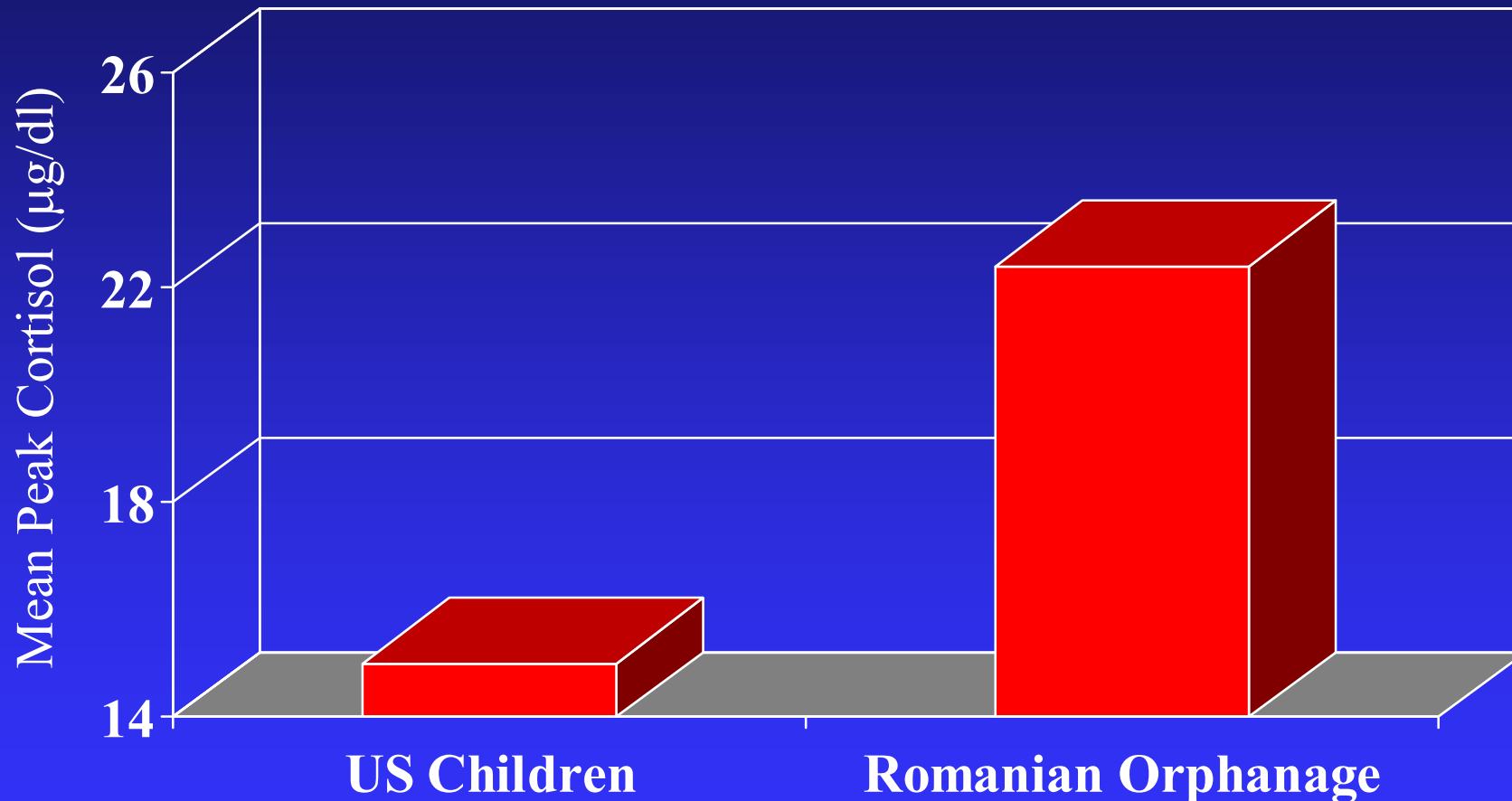


Correlation of IGF-I and Height



Are the Children Stressed?

Mean Peak Cortisol Values



$p < 0.001$

Predictors of Growth Stunting

Multivariate Relationship with Growth

Linear Regression Model: Dependent variable = Height z-score			
Variable	r-value	% of total variance	p-value
IGF-I	0.6	34	<0.001
Cortisol	-0.187	4	0.029
% of time in Orphanage	-0.187	4	0.030
Total of 3 Variables	0.65	42	<0.001

Developmental Problems Within The Orphanage

- Normal development 32%
- Abnormal development 68%

- Mild delay 11%
- Moderate delay 25%
- Severe delay 28%



Strong correlation between growth
and developmental delays

Long-term Developmental Changes-10 years post placement

- 35% significantly improved
- 35% few serious problems but progressing
- 30% several serious problems
 - IQ < 85, Atypical attachment, Severe behavior, stereotypical behavior

Summary of the child's orphanage time

- Children in orphanages have high rates of developmental delays
- These delays are likely multi-factorial
- Pre-orphanage factors
 - Increased rates of prenatal drugs and alcohol
 - Increased medical problems with the mother
- Orphanage factors
 - Lack of caretaker contact
 - Malnutrition
 - Untreated medical issues

What can we do?



- Early transition to a “family like” environment
 - Encourage early adoption (domestic and international)
 - Promote foster care and smaller group homes

Does adoption work?

- Mason et al (2007) found no difference between children from Guatemala, China and Russia between 1-3 years post adoption
- Johnson (2007) found
 - 95% of children medically healthy
 - In school 70% were doing average or better than average in their classes.
 - 7% were in programs for gifted or extremely high intelligence children

What can we do?

- Improve orphanages around the world
 - Better education of caretakers
 - Increase and retain caretakers
 - Improved nutrition and medical care of children
 - Better education of the children









