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Growth patterns in a cohort of very low birth weight infants in Johannesburg: a retrospective review

Mackay, Cheryl Anne

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DECLARATION:

I, Cheryl Mackay, declare that this research report is my own work. It is being submitted for the degree of Master of Medicine in the branch of Paediatrics in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

Signed: _____

_____ day of _____ 2010

Dedicated to my parents

Judy and David Mackay

PUBLICATIONS AND PRESENTATIONS ARISING FROM THIS STUDY

Mackay C, Ballot D. Growth patterns in a cohort of very low birth weight infants in Johannesburg: A retrospective review. Proceedings of the 28th Priorities in Perinatal Care Conference. In press.

ABSTRACT

INTRODUCTION: Improved survival of VLBW infants is raising several management issues. An example is that of growth and growth monitoring.

AIM OF THE STUDY: To assess the growth of a cohort of VLBW infants born at CMJAH from term CGA to 20 months CGA.

METHODS: A retrospective chart review was conducted on 139 VLBW infants (birth weight ≤ 1500g) born at CMJAH between 1 July 2006 and 28 February 2007.

RESULTS: Comparison with a term growth reference showed initial growth failure followed by gradual catch up growth but with persistent deficits in length for age. Comparison with international VLBW references showed similar growth for weight and head circumference for age but with deficits in length for age. Growth parameters of the study sample were similar to those of other South African VLBW infants.

CONCLUSION: Growth and growth monitoring in VLBW infants is complicated by characteristic growth patterns, high associated morbidity, controversies surrounding ideal growth and lack of an ideal growth reference. Significant deficits in length for age in the study sample may have been due to the large proportion of infants born SGA and the high prevalence of stunting in South African children. Current recommendations for growth monitoring of VLBW infants include the use of a VLBW reference up to two years CGA followed by a term growth reference thereafter.

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NOMENCLATURE:

AGA	Appropriate for gestational age
BPD	Bronchopulmonary dysplasia
BMI	Body mass index
CDC	National Centre for Health Statistics and the Centre for Chronic Disease Prevention and Health Promotion
CGA	Age corrected for gestational age
CMJAH	Charlotte Maxeke Johannesburg Academic Hospital
HMD	Hyaline membrane disease
HREC	Human research Ethics committee
ICU	Intensive care unit
IHDP	Infant Health and Development Program
IMCI	Integrated Management of Childhood Illness
IVH	Intraventricular haemorrhage
LBW	Low birth weight
MRI	Magnetic resonance imaging
NEC	Necrotizing enterocolitis
NICHD	National Institute of Child Health and Human Development
SD	Standard deviation
SGA	Small for gestational age
UN	United Nations
VLBW	Very low birth weight
WHO	World Health Organization
WHO-CGS	World Health Organization Child Growth Standards