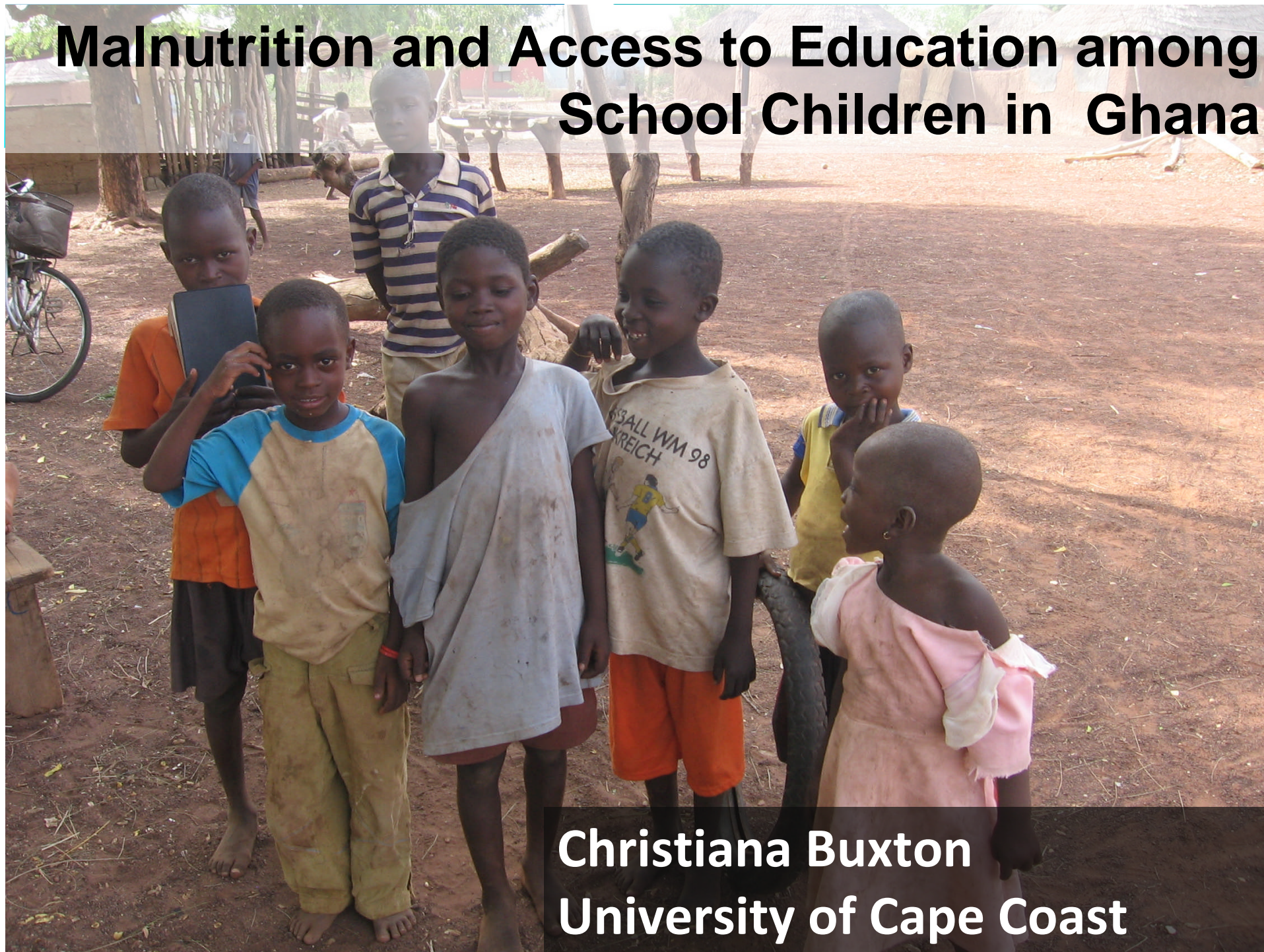# Malnutrition and Access to Education among School Children in Ghana

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Overview

- **Nutrition has a significant effect on the age of enrolment of children in the two districts studied.**

- **Malnourished (stunted/underweight) children enrolled late in school.**

- **This leads to problems with overage in grade which is a major issue for meaningful access and educational outcome in Ghana.**

Effects of Poor Nutrition and Health

Delayed school enrolment leading to over age in grade children

Cumulative effect leads to stunting, reduced cognitive development

Under - Nutrition

Micro-nutrient deficiency

Malaria

Diarrhoea

Worm infestation

Important from conception

Pridmore, P. (2007)

Relationship between Malnutrition and Age of Enrolment

- Majority of class 1 pupils fell within the overage categories in both districts

- There was a significant negative correlation between stunting/BMI and age of enrolling into primary school in both districts.

Relationship between Malnutrition and Age of Enrolment (cont'd)

- In both districts a higher prevalence of stunting and thinness for age (low BMI) were found among the overage/older pupils (overage by 2 or more years)

- These findings are consistent with similar studies (Glewwe and Jacoby 1995, Partnership for Child development 1998 & Brooker et al. 1999).

Some Key Issues

- ✓ Stunted growth/ thinness- for-age influence decisions made by parents/guardians on when a child is ready for primary school.

- ✓ Stunted growth and low BMI status may be barriers to accessing primary school on time (delayed primary school enrolment).

- ✓ Stunted growth in early years of a child's life may affect school performance later in life and may lead to dropping out from school as reported in some studies.

Policy Issues

- ✓ Nutrition / health and education policies must be linked together – MDGs on education and maternal/child health are also linked.

MOH should consider free or subsidized distribution of food items during pregnancy and the first 24 months of the child's life.

- ✓ Intensification of nutritional education programmes during ANC/PNC visits.

- ✓ Providing fortified complementary food products to pre-school children especially in deprived rural settings

Thank you!

Age Bracket	z-scores categories for HAZ/WAZ	HAZ/07 n (%)	WAZ/07 n (%)	z-scores categories for BMIZ	BMIZ/07 n (%)
Underage	Severely Stunted	0(0.0)	0(0.0)	Severe Thinness	0(0.0)
	Stunted	0(0.0)	0(0.0)	Thinness	0(0.0)
	Normal	1(100.0)	1(100.0)	Normal	0(0.0)
	Total	**1(100.0)**	**1(100.0)**	Overweight	1(100.0)
				Obese	0(0.0)
				Total	**1(100.0)**
Age in grade	Severely Stunted	0(0.0)	0(0.0)	Severe Thinness	0(0.0)
	Stunted	1(4.2)	1(4.2)	Thinness	1(4.2)
	Normal	23(95.8)	23(95.8)	Normal	20(83.3)
	Total	**24(100.0)**	**24(100.0)**	Overweight	3(12.5)
				Obese	0(0.0)
				Total	**24(100.0)**
Over age by 2-3 years	Severely Stunted	1(1.2)	0(0.0)	Severe Thinness	0(0.0)
	Stunted	22(26.5)	12(14.8)	Thinness	5(6.1)
	Normal	60(72.3)	69(85.2)	Normal	71(86.6)
	Total	**83(100.0)**	**81(100.0)**	Overweight	6(7.3)
				Obese	0(0.0)
				Total	**82(100.0)**
Overage by 4 or more years	Severely Stunted	9(14.3)	0(0.0)	Severe Thinness	1(1.6)
	Stunted	16(25.4)	3(12.0)	Thinness	8(12.9)
	Normal	38(60.3)	22(88.0)	Normal	50(80.6)
	Total	**63(100.0)**	**25(100.0)**	Overweight	2(3.2)
				Obese	1(1.6)
				Total	**62(100.0)**
TOTAL	Severely Stunted	10(5.8)	0(0.0)	Severe Thinness	1(0.6)
	Stunted	39(22.8)	16(12.2)	Thinness	14(8.3)
	Normal	122(71.3)	115(87.8)	Normal	141(83.4)
	Total	**171(100.0)**	**131(100.0)**	Overweight	12(7.1)
				Obese	1(0.6)

Age Bracket	z-scores categories for HAZ/WAZ	HAZ/07 n (%)	WAZ/07 n (%)	z-scores categories for BMIZ	BMIZ/07 n (%)
Underage	Severely Stunted	-	-	Severe Thinness	-
	Stunted	-	-	Thinness	-
	Normal	-	-	Normal	-
	Total	-	-	Overweight	-
				Obese	-
				Total	-
Age in grade	<Severely Stunted	0(0.0)	0(0.0)	Severe Thinness	0(0.0)
	Stunted	1(4.8)	0(0.0)	Thinness	0(0.0)
	Normal	20(95.2)	21(100.0)	Normal	16(76.2)
	Total	**21(100.0)**	**21(100.0)**	Overweight	5(23.8)
				Obese	0(0.0)
				Total	**21(100.0)**
Over age by 2-3 years	Severely Stunted	2(2.3)	0(0.0)	Severe Thinness	2(2.3)
	Stunted	10(11.4)	0(0.0)	Thinness	2(2.3)
	Normal	76(86.4)	89(100.0)	Normal	56(63.6)
	Total	**88(100.0)**	**89(100.0)**	Overweight	15(17.0)
				Obese	13(14.8)
				Total	**88(100.0)**
Overage by 4 or more years	Severely Stunted	15(17.9)	0(0.0)	Severe Thinness	4(4.9)
	Stunted	16(19.0)	5(12.8)	Thinness	18(22.0)
	Normal	53(63.1)	34(87.2)	Normal	50(61.0)
	Total	**84(100.0)**	**39(100.0)**	Overweight	6(7.3)
				Obese	4(4.9)
				Total	82(100.0)
TOTAL	Severely Stunted	17(8.8)	0(0.0)	Severe Thinness	6(3.1)
	Stunted	27(14.0)	5(3.4)	Thinness	20(10.5)
	Normal	149(77.2)	144(96.6)	Normal	122(63.9)
	Total	**193(100.0)**	**149(100.0)**	Overweight	26(13.6)
				Obese	17(8.9)

Relationship between Anthropometric Indicators and Age of Enrolment

Variable	r (*p-value*)
Mfantseman District Age of Enrolment	
HAZ (Stunting)	-0.523(0.001)*
BMIZ (Thinness- for-Age)	-0.245(0.001)*
WAZ (Underweight)	-0.401(0.001)*
Savulugu-Nanton Age of Enrolment	
HAZ (Stunting)	-0.524(0.001)*
BMIZ (Thinness-for-Age)	-0.355(0.001)*
WAZ (Underweight)	-0.457(0.001)*