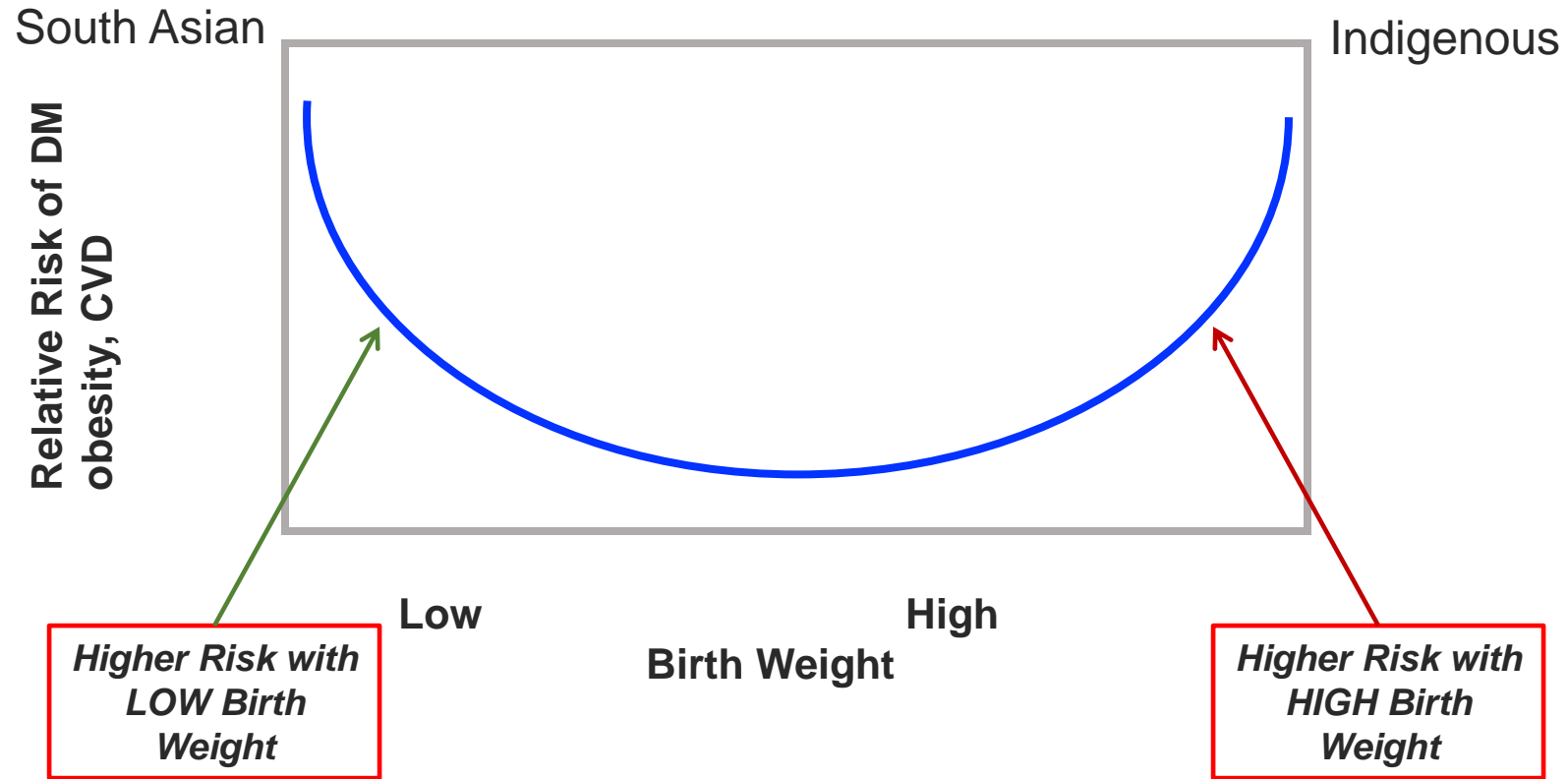


SouTh Asian biRth cohort

START



# Life-course approach to understanding cardio-metabolic risk factors development

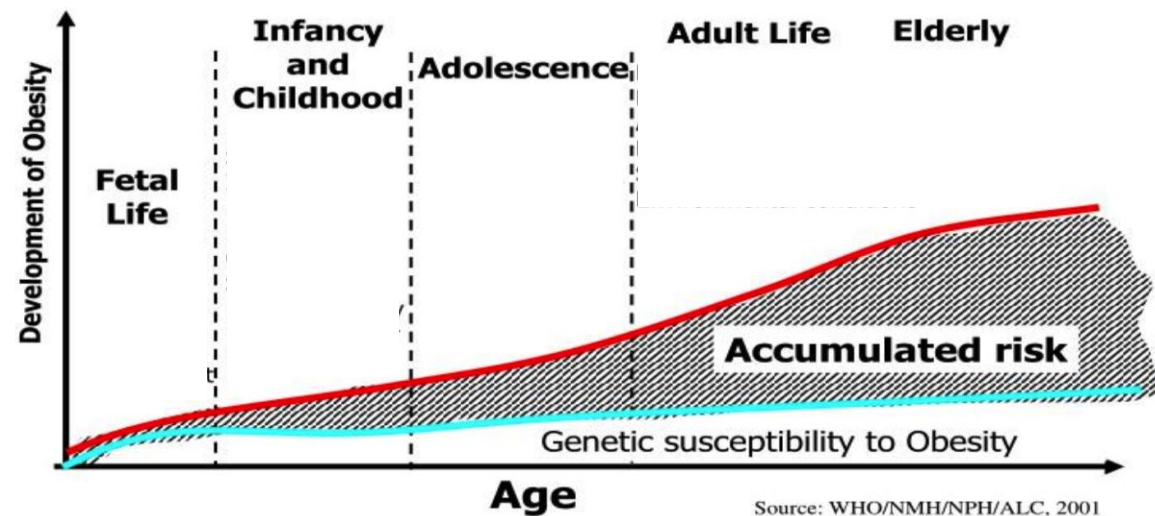


# Life Course Perspective

- Cardio-Metabolic Factors account for two-thirds of CVD risk
- Risk factors are present at younger ages in South Asians
- Why do these risk factors develop earlier in South Asians? at determines whether these risk factors develop?



## Obesity prevention : a Life Course Approach



**288**  
Mothers/Babies  
Feb 2011-Sep 2015



**484**  
Mothers/Babies  
Feb 2011-Sep 2015



**1,000**  
Mothers/Babies  
Jul 2011 – Nov 2015

Rural India



Urban India



Urban Canada



# Recruitment and Follow-up

	START Canada
Recruitment (N)	1012
Birth Visits (N)	1001
1 Year (N, %)	940 (95.7%)
2 Year (N, %)	913 (93.3%)
3 Year (N, %)	924 (94.6 %)
5 Year* (N, %)	629 (87.7%)

# Measures at pregnancy, birth, 1 year, 3 and 5 years in Mother (m) and Child (c)

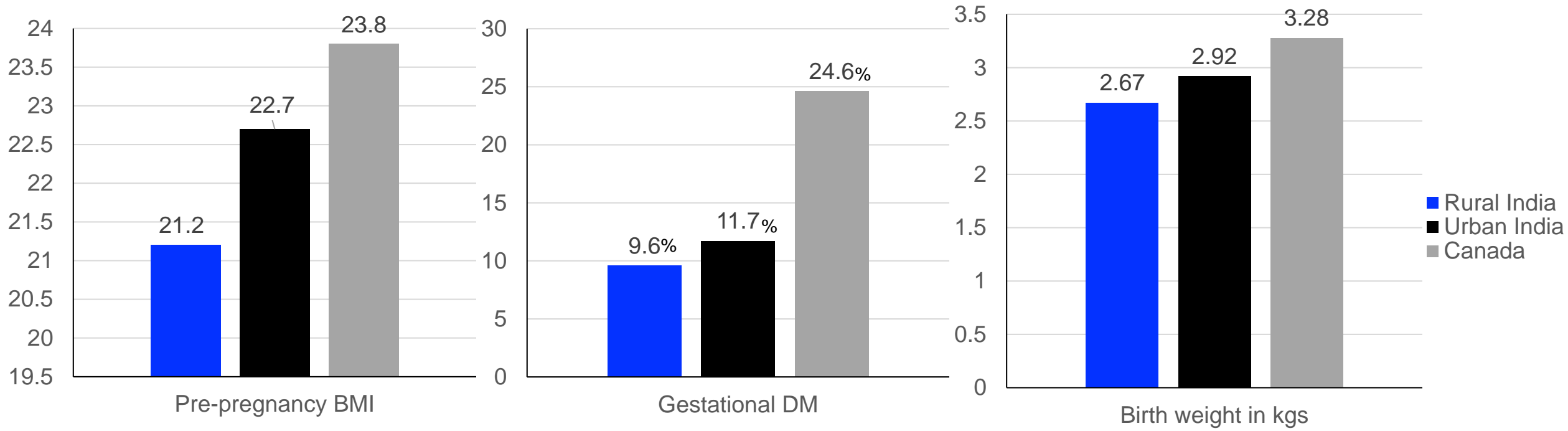
Measures	Prenatal	Birth	1 year	3 year	5 years*
Physical Measures	1012 (m)	998 (c)	863 (m) 901 (c)	860 (m) 902 (c)	611 (m) 606 (c)
Body fat	1012 (m)	968 (c)	732 (m) 743 (c)	643 (m) 663 (c)	384 (m) 391 (c)
Diet	1012 (m)	--	802 (m) 937 (c)	816 (m) 630 (c)	583 (m) 574 (c)
Physical Activity	1012 (m)	--	931 (m)	895 (m) 891 (c)	577 (m) 589 (c)
SES/Social Support	1012 (m)	--	821 (m)	819 (m)	385 (m)
Sleep	--	--	925 (m) 930 (c)	893 (m) 880 (c)	383 (m) 386 (c)
K-10 (Depression)	1012 (m)	--	931 (m)	901 (m)	383 (m)
OGTT	935 (m)	--	--	--	
Stored Blood/ Urine	983 (m)	776 (m)	214 (m) 220 (c)	31/292 (m) 33/292 (c)	134/316 (m) 69/311 (c)
Placenta Sample	--	N=674	--	--	--

# START Canada vs India

## Baseline Characteristics

<b>BASELINE PARAMETERS</b>	<b>Canada (n=1012)</b>	<b>Urban India (N=484)</b>	<b>Rural India (N=288)</b>
<b>Maternal Age</b>	30.2 (3.9)	23.7 (3.4)	203.9 (2.4)
<b>Primiparous (%)</b>	30.5	55.8	84.7
<b>Employed outside home (%)</b>	54.1	18	5
<b>High school education or higher (%)</b>	82.9	68.8	36.8

# Comparing South Asians in India to Canada



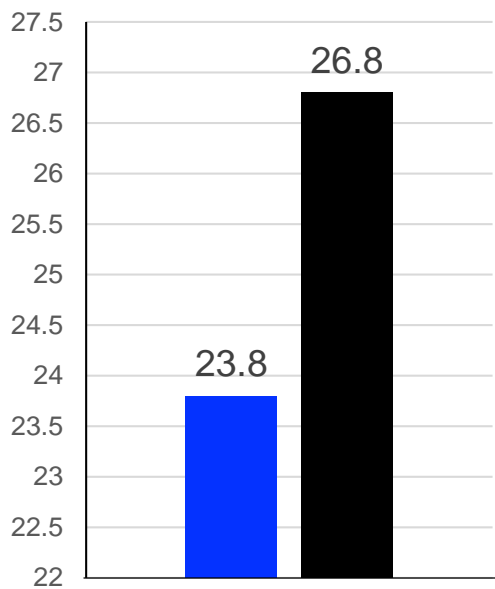


# START Canada vs India

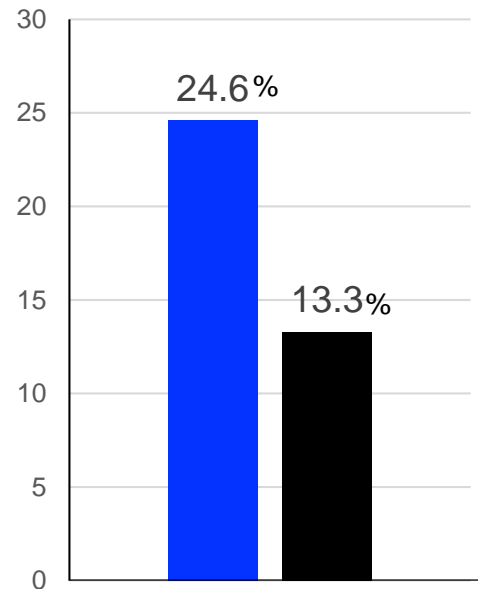
## Dietary Characteristics

<b>BASELINE PARAMETERS</b>	<b>Canada (n=1012)</b>	<b>Urban India (N=484)</b>	<b>Rural India (N=288)</b>
<b>Daily Energy Intake (kcal/d)</b>	2060	1850	1533
<b>Protein (% total Kcal)</b>	15.4	11.6	11.9
<b>Fat (% total kcal)</b>	28.6	24.1	22.1
<b>Carbohydrate (% total kcal)</b>	56	64.3	66

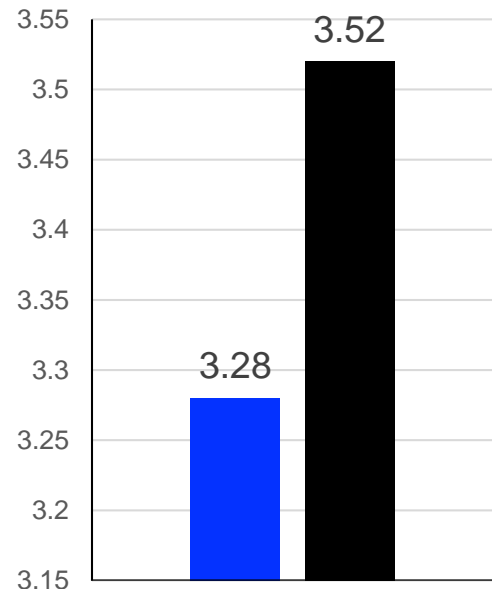
# South Asians vs White Caucasians Maternal BMI, GDM and Offspring



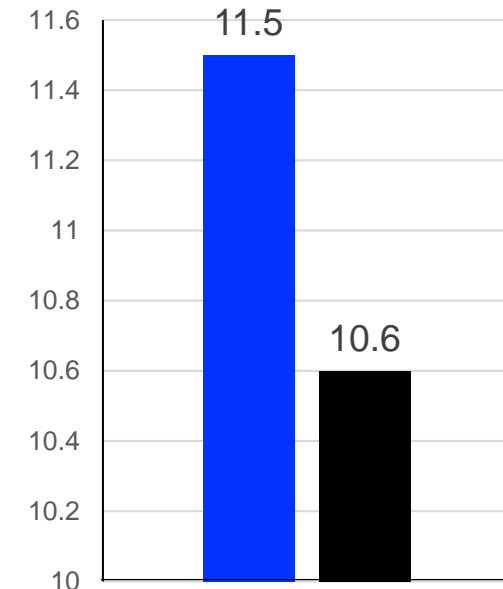
Pre-pregnancy BMI



Gestational DM



Birth weight in kg



Body Fat (SFT in mm)

■ South Asian  
■ White Caucasian

Lower BMI South Asian women have more GDM  
“Thin-fat” phenotype present from birth!