

# **IMPACT OF HEALTHY SNACKS ON CHILDREN'S HEALTH: A PILOT STUDY**

**Acharya, J., van Teijlingen, E., Ellahi, B., Pariyar, B., Subedi, K. & Dangal, M.**

**DURHAM UNIVERSITY  
DURHAM, ENGLAND**

---

**APRIL 16-17, 2018**

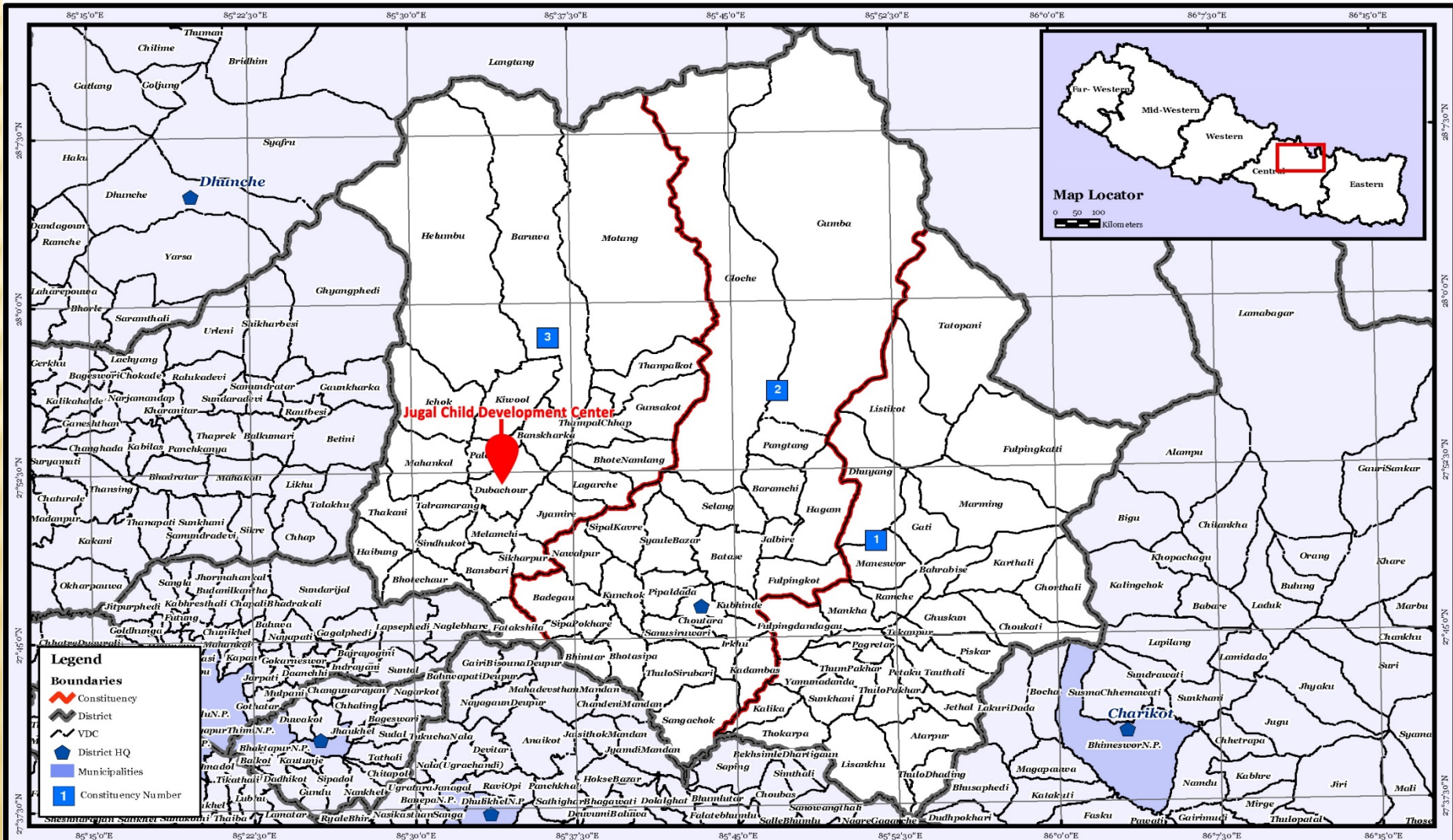
# PRESENTATION OUTLINES:

---

- ✘ Map of the Sindhupalchowk district
- ✘ Aim of study
- ✘ Study method and population
- ✘ Data collection
- ✘ Findings
- ✘ Conclusions and Recommendations
- ✘ Snap shots of the activities

# STUDY SITE

## SINDHUPALCHOK DISTRICT



# AIM OF THE PILOT STUDY

---

- ❖ to evaluate the impact of the rice pudding feeding programme on child health.
- ❖ to calculate the costs of the preparation.
- ❖ to increase level of awareness and local involvement.

## **Duration of the study**

- ❖ 54 days (21 December, 2015 to 21 February, 2016)

# STUDY METHOD AND POPULATION

## Methods

- ❖ Cross sectional pilot study
- ❖ Before and after data

## Study population

- ❖ Sample size : 42 children
- ❖ Age of children : 24 to 60 months

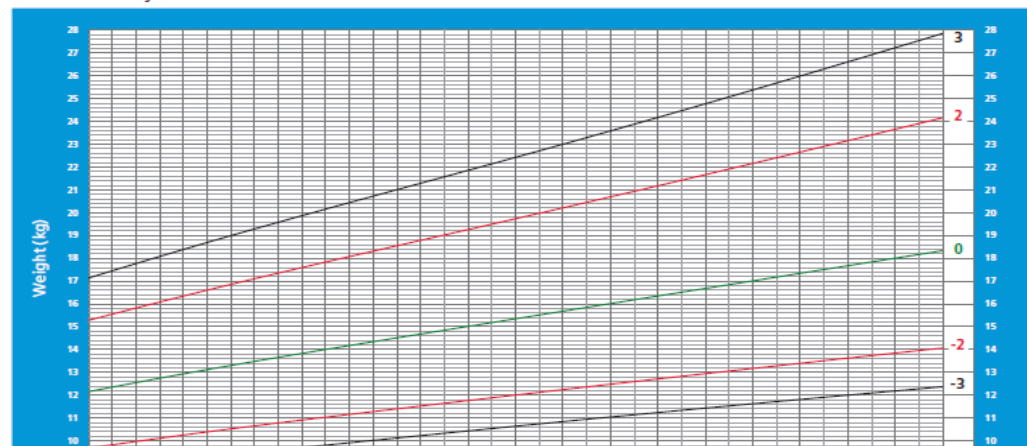


# GENDER & AGE DISTRIBUTION

Male	43%
Female	57%
<b>Age (mths)</b>	<b>%</b>
24-36	24.0
37-48	36.0
<b>49-60</b>	<b>40.0</b>
Total	100 %

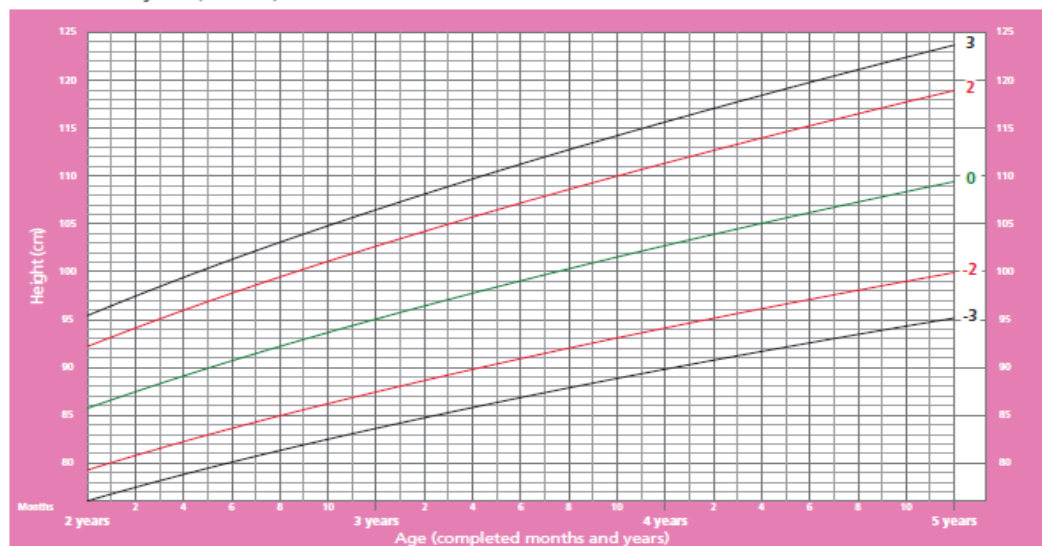
## Weight-for-age BOYS

2 to 5 years (z-scores)



## Height-for-age GIRLS

2 to 5 years (z-scores)



# FINDINGS

In 54 days we expected about 285 g weight gain and just under 1cm in height.

WHO Growth charts

Distribution of weight <u>prior</u> to programme		weight <u>after</u> programme
Weight range (kg)	Prior proportion (%)	After proportion (%)
10-12	33.0	12.0
13-15	53.0	52.0
16-18	14.0	36.0
Distribution of height <u>prior</u> to programme		Height <u>after</u> programme
Height range (cm)	Proportion (%)	Proportion (%)
68-75	5.0	5.0
76-83	10.0	7.0
84-91	64.0	55.0
92-98	21.0	33.0



# DISTRIBUTION OF THE MATERIAL COSTS

Particulars	Unit	Cost (NRs)	Total (USD)
Clarified butter	500 ml	250	2.39
Raisins	200 mg	50	0.48
Sugar	1 Kg	80	0.76
Rice	1 Kg	100	0.96
Coconut	250 mg	25	0.24
Cashew-nut	200 mg	500	4.79
Cinnamon	50 mg	15	0.14
Milk	10 Liters	400	3.83
Miscellaneous	Fuel & labour charges	80	0.77
	Total expenditure	1500	14.36

**Note:** There was no fixed market price available, hence price is based on costs as local markets.

# FINDINGS: COST

<b>Cost of rice pudding/child/day</b>	<b>USD 0.34</b>
	<b>NRs 35.51</b>
<b>Daily cost for 42 children</b>	<b>USD 14.36</b>
	<b>NRs 1500.00</b>
<b>Total cost for 42 children for 56 days feeding</b>	<b>USD 775.56</b>
	<b>NRs 81000.00</b>

(@1USD=104.44 on 20 Dec, 2015)

# SOURCE OF FUNDING

Source of funding	Total (NRs.)	Total (US\$)	Remarks
Contribution by the researcher	48,000.00	459.59	In two and half years, the first author collected dropped money (mainly coins) while walking in the streets towards University and home (Geoghegan, 2008). Nearly 5% money were contributed by the friends and relatives,
Contribution by the local people	33,000.00	315.97	Supported by the local community and management team of the Jugal Daycare Centre.
Total	81,000.00	775.56	(1 US\$ = 104.44 on 20 Dec., 2015)

# COST OF THE SCHOOL SNACKS: WORLDWIDE

✘ Scotland	USD 2.94/child/day
✘ France	USD 6.43-8.27/child/day
✘ Spain	USD 5.98/child/day
✘ Sweden	USD 2.66/child/day
✘ USA	USD 2.0/ child/day
✘ Australia	USD 2.32-3.09/child/day
✘ <b>Jugal CDC study</b>	<b>USD 0.34/child/day</b>

# CONCLUSIONS & RECOMMENDATIONS

## Conclusions

- ❖ Significantly increased child's weight and MUAC after rice pudding
- ❖ Changed food behaviours of the children of the days care centre
- ❖ Increased the level of awareness amongst the rural community
- ❖ Increased child enrolment in the CDC
- ❖ Increased the knowledge of mothers about healthy diet
- ❖ Effects on the cost of the programme by local support which lead to sustain the programme.

## Recommendations

- ❖ Similar programme should be conducted with a larger population for at least for six months.

# ACKNOWLEDGEMENT

- District Public Health Office, Sindhupalchowk
- District Education Office, Sindhupalchowk
- Child Nepal, Kathmandu
- Jugal Child Day Care Centre, Sindhupalchowk
- Mothers' Group, Duwachaur

**THANK YOU VERY MUCH FOR YOUR KIND ATTENTION**

