



ILE 2019

The impact of group hygiene activities on
children's handwashing and toothbrushing habits

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Handwashing with soap



- ✓ One of the most cost-effective public health interventions
- ✓ Associated with a 30% reduction in incidence of diarrhoea and 21% reduction in pneumonia

Toothbrushing with fluoride toothpaste



- ✓ Tooth decay is the most common childhood condition worldwide
- ✓ Twice daily toothbrushing with fluoride toothpaste is highly effective to prevent cavities.

Hygiene promotion in schools

Schools as venues to develop hygiene behaviours:

- Supportive environment: access to WASH
- Daily supervised group hygiene activities (routines & norms)
 - Reduction in diarrhea & worm infections
 - Increase in BMI and school attendance
 - Reduction in tooth decay



The Fit for School approach

Supporting Ministries of Education to improve child health through the institutionalisation of evidence-based WASH interventions into school routines



Daily group handwashing with soap



Daily toothbrushing with fluoride toothpaste



Access to group handwashing facilities



Operation & maintenance of school sanitation

Habit formation

“Habit”

Learned, automatic behaviour that is triggered unconsciously by cues

The Fit for School Plus study (2017-2018)

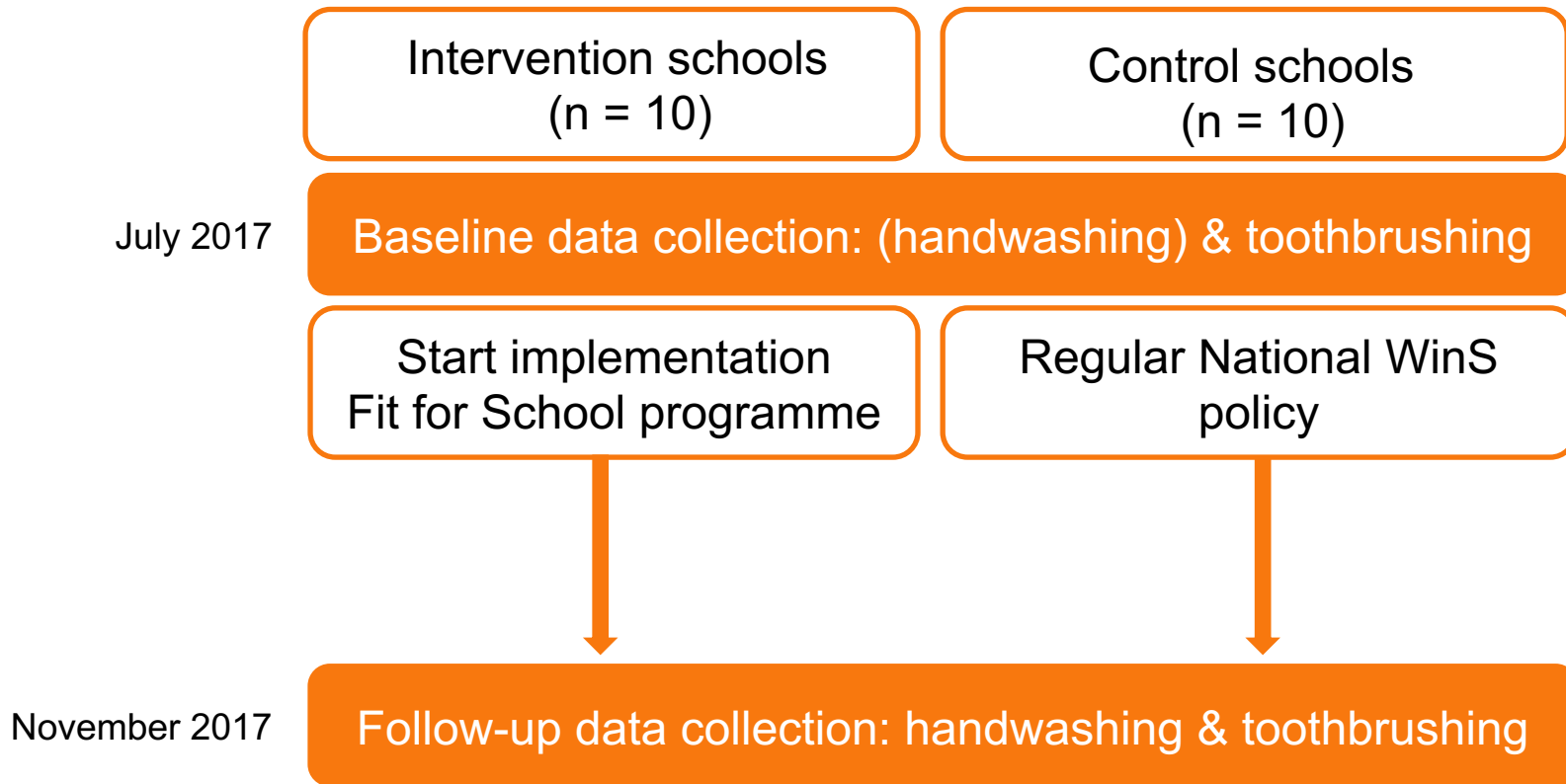
Aims:

To explore whether the Fit for School programme, which includes group hygiene activities, contributes to the formation of independent handwashing and toothbrushing habits in children



Methods

Design: randomized cluster-controlled trial in Batangas



Results: handwashing with soap

- Soap-use to toilet event ratio as proxy indicator for independent handwashing after toilet use
 - ✓ Weight of soap (new bars) used on day of data collection /
 - ✓ Number of toilet events – measured with infrared sensors

Results

- No significant difference in mean soap-use ratio between intervention schools and control schools

Soap use to toilet event ratio	Control schools mean \pm sd	Intervention schools mean \pm sd	p-value *
All toilets	0.30 g (0.86)/ event	0.41 g (1.56)/ event	p = 0.637

GEE model, adjusted for age, sex and clustering

Results: toothbrushing with fluoride toothpaste

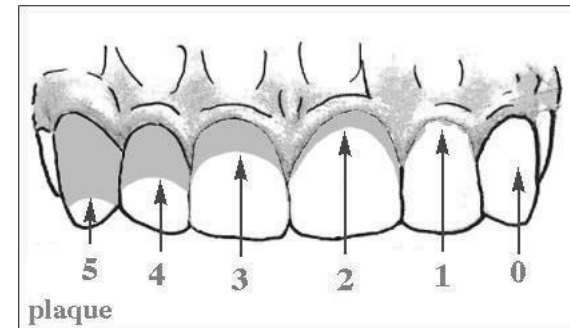
- Dental plaque on Monday morning as proxy indicator for toothbrushing at home over the weekend

Results

- No significant difference in mean plaque scores between intervention schools and control schools

Dental plaque scores	Baseline mean \pm sd	Endline mean \pm sd	Difference
Control	3.39 \pm 0.95	3.27 \pm 0.96	-0.12
Intervention	3.36 \pm 0.97	3.22 \pm 0.98	-0.14

GEE model, adjusted for age, sex and clustering



Discussion



Group handwashing with soap

- No increased uptake of independent handwashing in intervention schools
- Literature: mean soap-use ~ 0.50 – 0.80 g/event
→ May indicate high soap use in both groups
- Interesting observation: presence of soap caused excitement among children (using soap for washing faces, clothes or toilet walls)
- Provision of the necessary infrastructure and consumables may already trigger behaviour change

Discussion



Toothbrushing with fluoride toothpaste

- No difference in plaque scores between intervention and control schools.
- The high plaque scores indicate that toothbrushing is not an established behaviour in the home context
- Findings suggest that the development of toothbrushing habits in the home environment requires additional intervention

Conclusions

- The health benefits of school-based handwashing and toothbrushing have been firmly established
- As children may not be performing these interventions at home, it is of utmost public health interest to institutionalise the habit in the school context.
- Behaviour transfer of school-based hygiene activities to the home context requires effective mechanisms for behaviour change at the household level.

