

# DePEC Nutrition – WS 3

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## DePEC nutritional intervention

**A study to investigate the feasibility of a mixed-method intervention to reduce salt intake and increase high-nitrate vegetable consumption in middle-aged and older Malaysian adults with elevated blood pressure.**

# Study setting



**MONASH**  
University

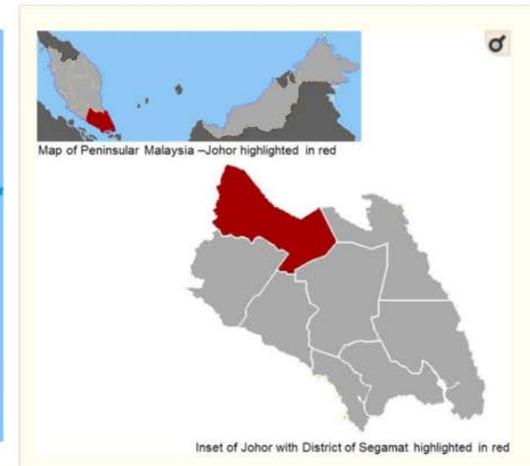


Technology Research Platforms | South East Asia Community Observatory (SEACO)

## South East Asia Community Observatory (SEACO)

The South East Asia Community Observatory (SEACO) is a research platform in population health and well being in regional Malaysia – a high middle-income country. It was launched on 20 November 2011. The primary purpose in Segamat is to collect salient and high-quality data to gain insights into the factors that affect health in a whole of life context.

Segamat district Malaysia



# Intervention

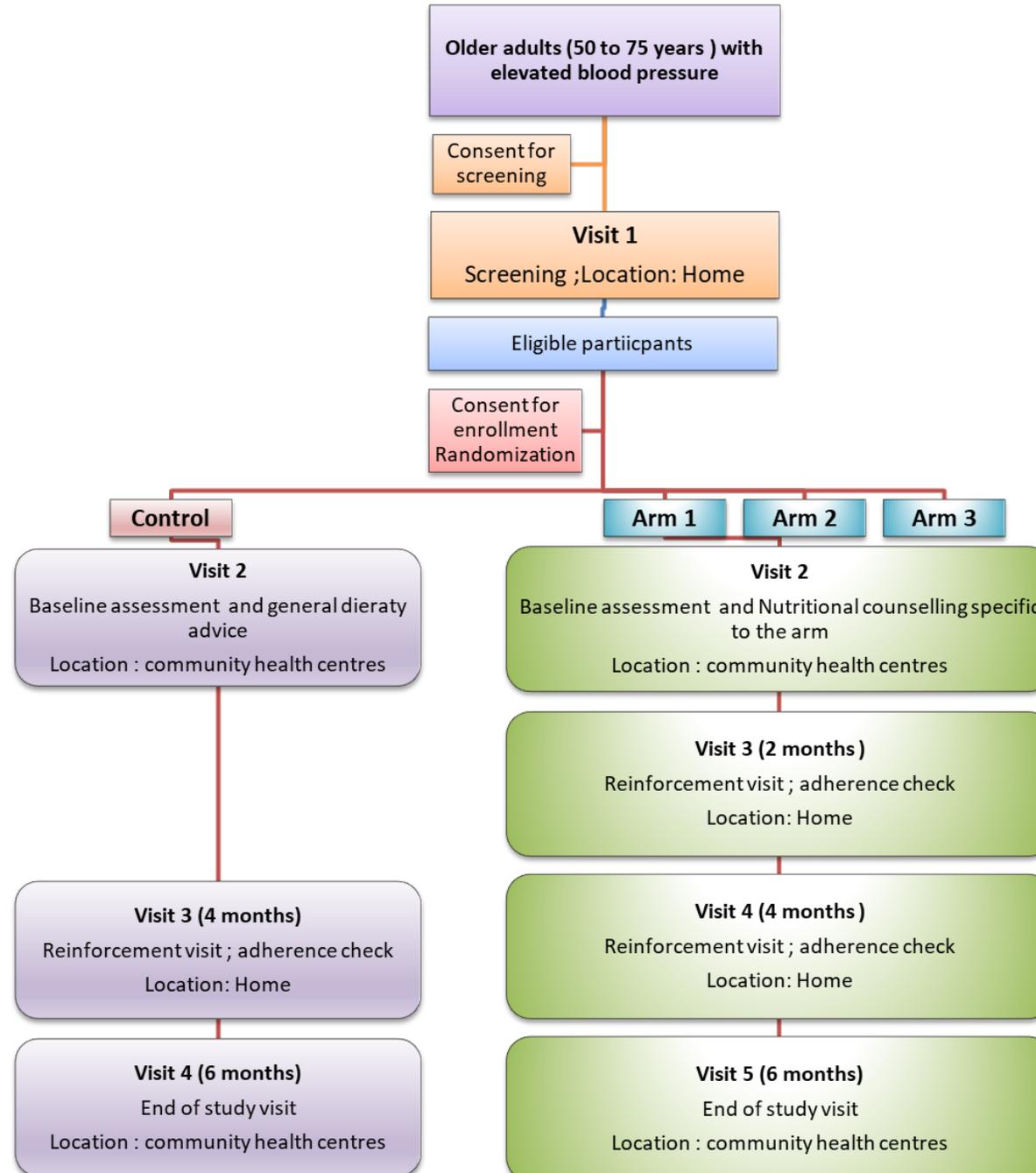
- 24 weeks intervention
- Counselling for modification of diet
  - Reduction in salt intake
  - Increase in nitrate intake – green leafy vegetables
- Control – general health promotion message based on MOH dietary guideline

# Four arms

Older adults aged 50-75 years  
Prehypertensive or hypertensive

30 \* 4 = 120 participants

Interventions arms	Decrease in dietary salt consumption	Increase in dietary nitrate consumption (green leafy vegetables)
Arm1 (salt reduction)	✓	✗
Arm2 (increase nitrate)	✗	✓
Arm3 (salt reduction & increase nitrate)	✓	✓
Control	✗	✗



# Outcome of the study

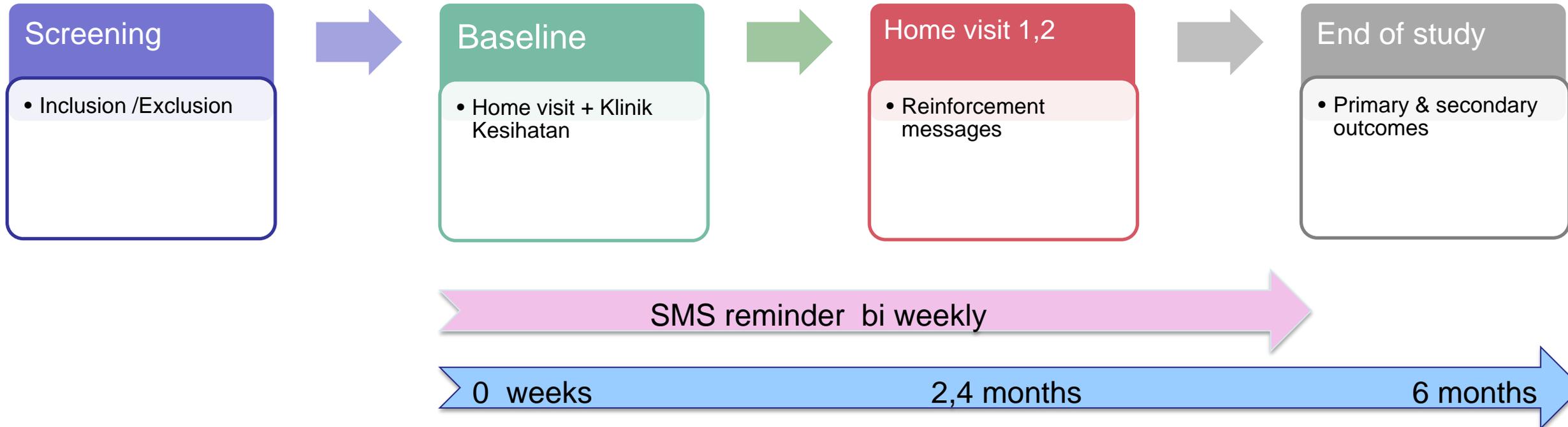
## Primary outcome

- Feasibility of the intervention

## Secondary outcome

- Cognitive test performance – MMSE, MoCA (timed trail And B ), – Montreal Cognitive Assessment (MoCA), Animal Naming , Auditory Verbal Learning Test, **Trail making B**
- Resting blood pressure
- Body composition: height, weight, waist circumference, body fat
- Physical performance: hand-grip strength, gait speed and timed up and go
- Behaviour change -Adherence to nutritional interventions measured by dietary methods
- Biochemical outcomes monitored including routine biomarkers of cardio-vascular risk

## Study time line





## Screening current progress

**Total approached :655/ 900= 73%**

**Total eligible after stage 1 exclusion : 207**

# Screening challenges

## Allied Health Professions Act

Screening numbers until mid August 2019- 742

Ethnicity	Status A		D		E		EX		N		R		Grand Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1	148	34.8%	4	0.9%	15	3.5%	203	47.8%	28	6.6%	27	6.4%	425	100.0%
2	45	21.7%	3	1.4%	4	1.9%	138	66.7%	14	6.8%	3	1.4%	207	100.0%
3	30	27.3%	2	1.8%	4	3.6%	57	51.8%	2	1.8%	15	13.6%	110	100.0%
<b>Grand Total</b>	<b>223</b>	<b>30.1%</b>	<b>9</b>	<b>1.2%</b>	<b>23</b>	<b>3.1%</b>	<b>398</b>	<b>53.6%</b>	<b>44</b>	<b>5.9%</b>	<b>45</b>	<b>6.1%</b>	<b>742</b>	<b>100.0%</b>

[Ethnicity Key] 1= Malay; 2 = Indian, 3 = Chinese

- Most of these participants where from Chaah
- **KK Chaah had to be excluded**

### Allied Health Professions Act

**Nutritionists cannot counsel patients  
with Pre HTN or HTN**

SEPERTI SENARAI EDARAN

YBhg Datuk/ Dato'/ Tuan/ Puan,

**ARAHAN PENGGUNAAN BORANG RUJUKAN RUNDING CARA  
PEMAKANAN (RCP) PINDAAN 2019 DI KLINIK KESIHATAN**

Dengan segala hormatnya, saya merujuk kepada perkara di atas

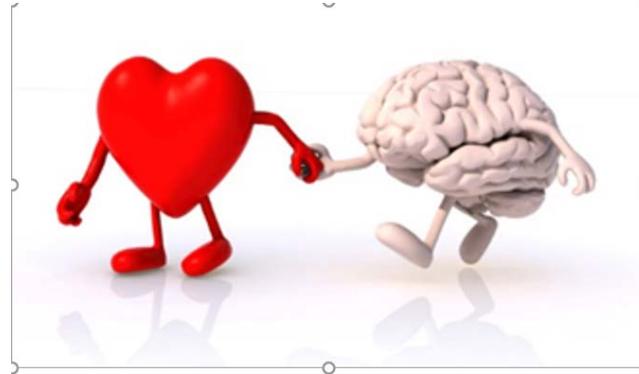
# Updates – Baseline

- MREC clearance to be obtained- ? 3<sup>rd</sup> week October
- Tentative dates for start – early November
- Resource procurement – complete by end of October
  
- Counselling sessions .
  - By Medical officers (using slides )
  - 2 sessions every week (every Thursday)
  - Group session : 3 to 6 / group
  - In Bahasa Malayu
  - Counselling material for participants

# Counselling session



Recommended intake



Salt and Health



How to be more salt aware?



Reading food labels



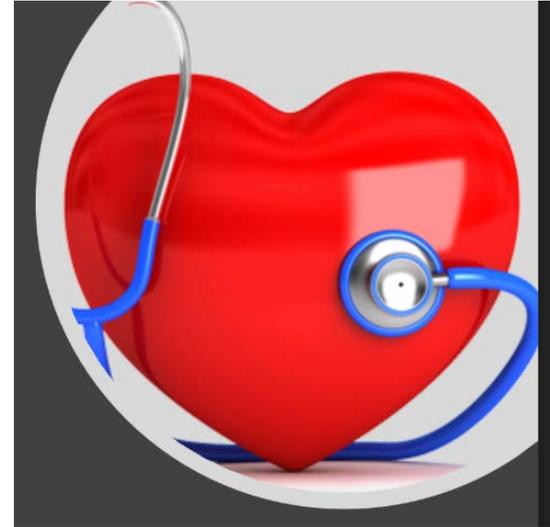
Using the salt measuring  
spoon



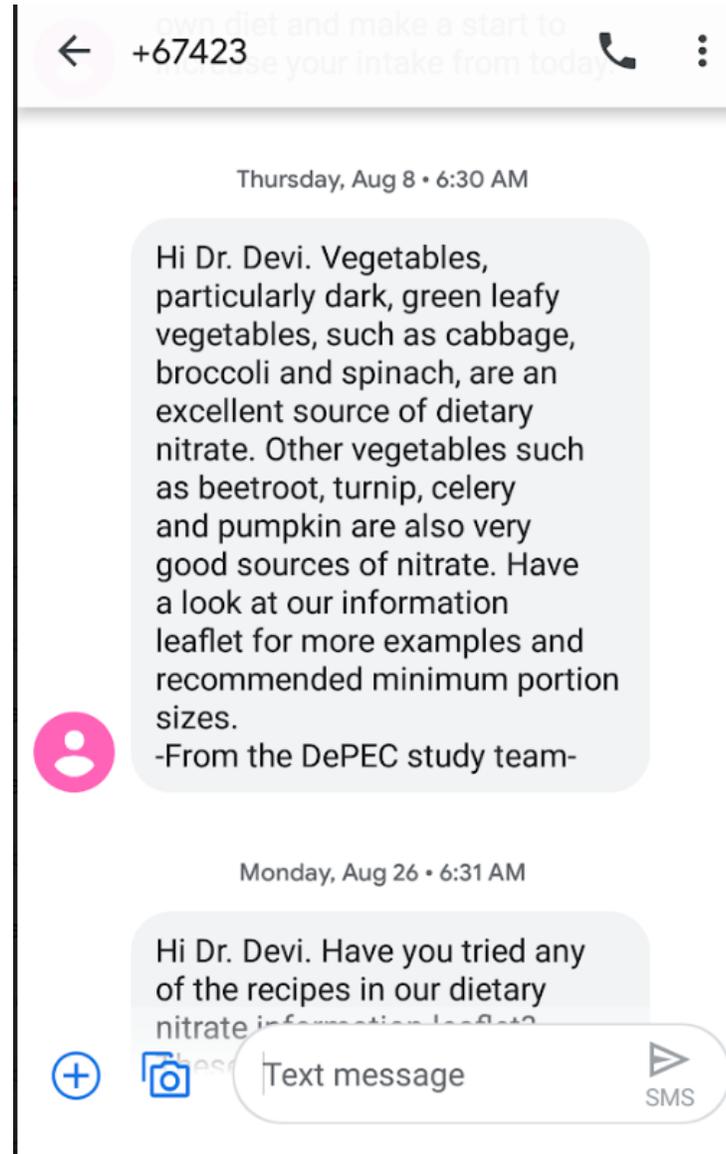
# Counselling – high nitrate arm



Dietary nitrate – what is it?



# SMS reminders- tested



# Capacity building – Mario and Andrea's visit



Tanita body composition – training



Brain storming- FFQ, 24 hr diet recall

# Visit to local market- local products and food labels



# DePEC team –WS 3



# Research outputs

- 2 abstracts submitted at ADI

## Abstract Details

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Abstract ID : 590

Type : Scientific Abstract Submissions

Format : Oral or poster presentation

Title : Association of dietary salt intake and cognition in middle-aged and older adults: A systematic review

Author(s) : Mohan, Devi; Yap, Kwong Hsia; Reidpath, Daniel; Soh, Yee Chang; McGrattan, Andrea; Stephan, Blossom CM; Robinson, Louise; Chaikunapruk, Nathorn; Siervo, Mario

## Abstract Details

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Abstract ID : 229

Type : Scientific Abstract Submissions

Format : Oral or poster presentation

Title : DePEC – Dementia Prevention and Enhanced Care: The feasibility of a mixed-methods, dietary intervention study to reduce salt intake and increase high-nitrate vegetable consumption among middle-aged and older Malaysian adults with high blood pressure

Author(s) : McGrattan, Andrea; Mohan, Devi; Pei Wei, Chua; Mat Hussin, Azizah; Soh, Yee Chang; Stephan, Blossom; Allotey, Pascale; Reidpath, Daniel; Robinson, Louise; Siervo, Mario

# Publication – 2 drafts

**Target journal:** *J Alzheimers Dis.*

## **Association of dietary sodium intake with cognition and dementia risk in middle-aged and older adults: A systematic review**

### **AUTHORS**

Devi Mohan<sup>1,~</sup>, Kwong Hsia Yap<sup>1,~</sup>, Daniel Reidpath<sup>1, 3</sup>, Yee Soh Chang<sup>1</sup>, Andrea McGrattan<sup>4</sup>, Blossom CM<sup>2</sup> Stephan, Louise Robinson<sup>4</sup>, Nathorn Chaiyakunapruk<sup>1,5 #</sup>, Mario Siervo<sup>2#</sup>

The feasibility of a mixed-methods, dietary intervention study to reduce salt intake and increase high-nitrate vegetable consumption among middle-aged and older Malaysian adults with elevated blood pressure: a study protocol

Andrea M McGrattan<sup>1\*</sup>, Devi Mohan<sup>2</sup>, Chua Pei Wei<sup>2,6</sup>, Azizah Mat Hussain<sup>3</sup>, Yee Chang Soh<sup>2,6</sup>, Blossom C M Stephan<sup>4</sup>, Pascale Allotey<sup>2</sup>, Daniel D Reidpath<sup>2,6</sup>, Louise Robinson<sup>1</sup>, Mario Siervo<sup>5</sup>



## From India to Malaysia for a Healthy Community

SEACO received a visit from Prof. Dr Biju Soman, a Professor and Associate Dean from Institute of Medical Science and Technology, Trivandrum Kerala, India. We gladly took this opportunity to conduct a booth presentation to introduce them on SEACO's works and projects with Prof. Tin Tin Su along with us. He also shares his thoughts and ideas about collecting data that day. We really appreciate it.

**14 December 2018**