



UPM
UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI



**Universiti
Putra
Malaysia**



Community Nutrition Research during COVID-19 Pandemic in Malaysia

Assoc. Prof. Dr. Chin Yit Siew

¹Department of Nutrition, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

²Research Centre of Excellence Nutrition and Non-Communicable Diseases (RCOE-NNCD), Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

Email: chinys@upm.edu.my



f UniPutraMalaysia

@uputramalaysia

uniputramalaysia

universitiputramalaysia

PERTANIAN • INOVASI • KEHIDUPAN
BERILMU BERBAKTI
WITH KNOWLEDGE WE SERVE

Outline

COVID-19 Pandemic in Malaysia

Community Nutrition Research in Malaysia

Local studies related to community nutrition during COVID-19 pandemic

Research methodology adaptations during COVID-19 pandemic

Opportunities and Challenges in conducting research during COVID-19 pandemic

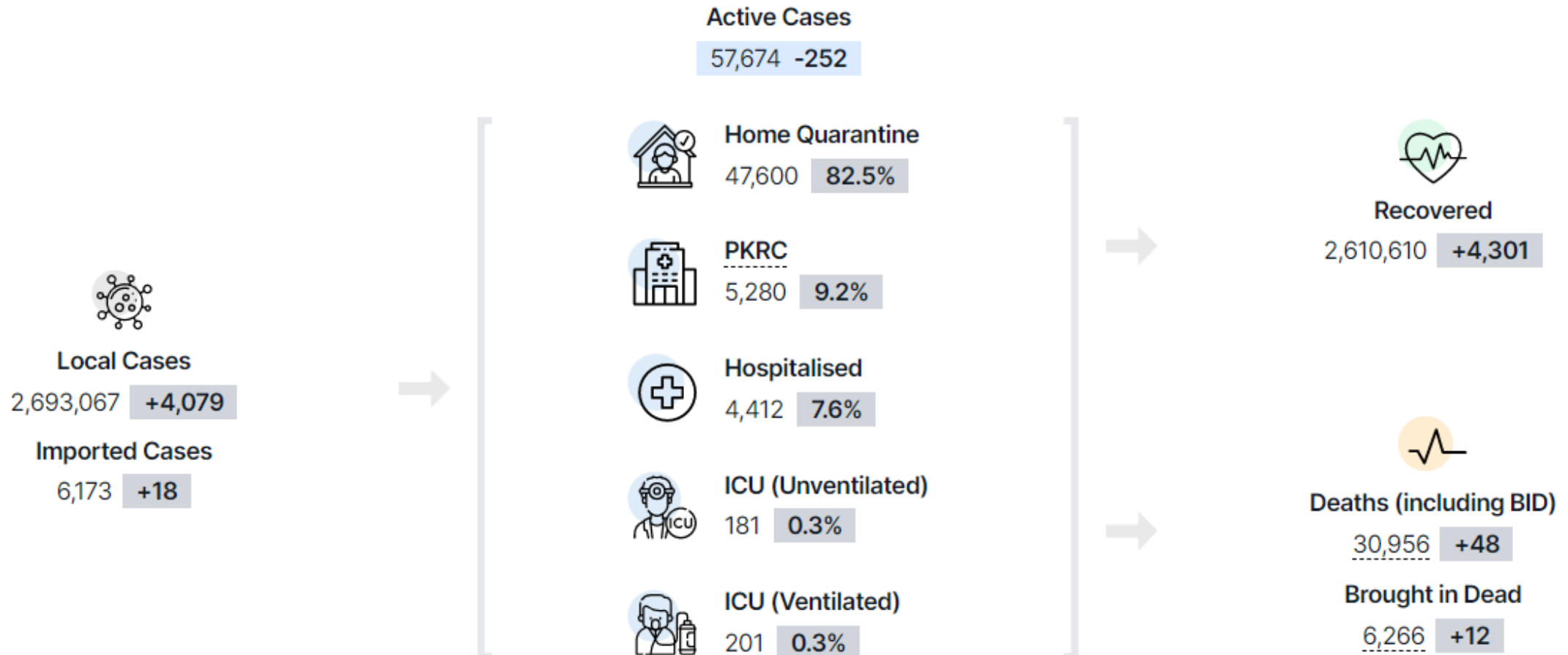
COVID-19 Pandemic in Malaysia

Cases

Data as of 14 Dec 2021, 11:59 pm

Active COVID-19 Cases

Data for Malaysia



<https://covidnow.moh.gov.my/>

COVID-19 Pandemic in Malaysia

COVIDNOW in Malaysia

The official Malaysia government website for data and insights on COVID-19.

Last updated: 15 Dec 2021, 8:33 am 

Vaccinations

Population Vaccinated

Data for Malaysia

Daily - Administered

+161,828

Total - Administered

55,209,067

Daily - Boosters

+152,707

Total - Boosters

3,944,858

Daily - Partially Vaccinated

+4,105

Total - At Least 1 Dose

25,935,479

Daily - Fully Vaccinated

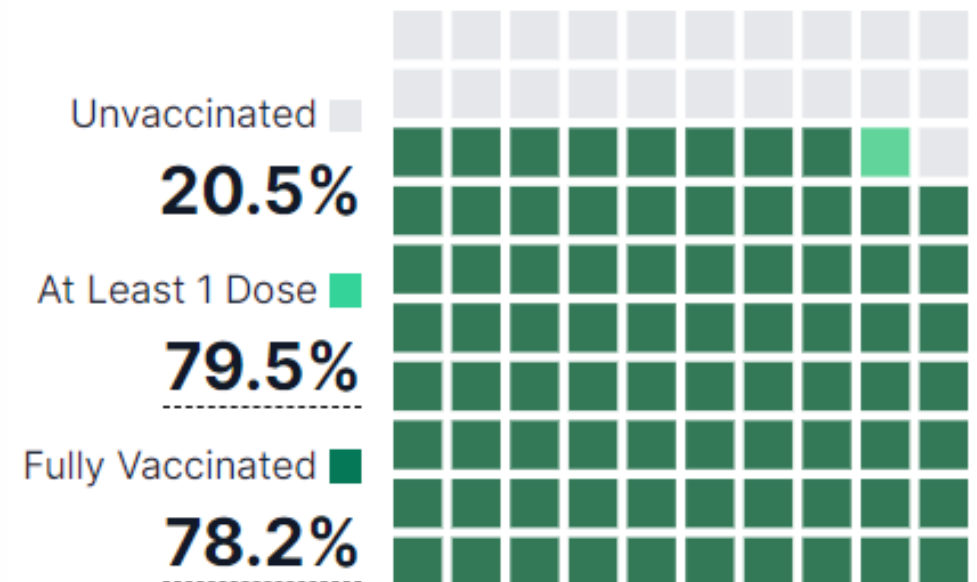
+5,016

Total - Fully Vaccinated

25,522,460

Vaccination in Malaysia started on 24 Feb 2021 but was not able to gain momentum until Jun 2021.

Adolescents (12-17) Adults (18+) Total Population



<https://covidnow.moh.gov.my/>



f UniPutraMalaysia

@uputramalaysia

uniputramalaysia

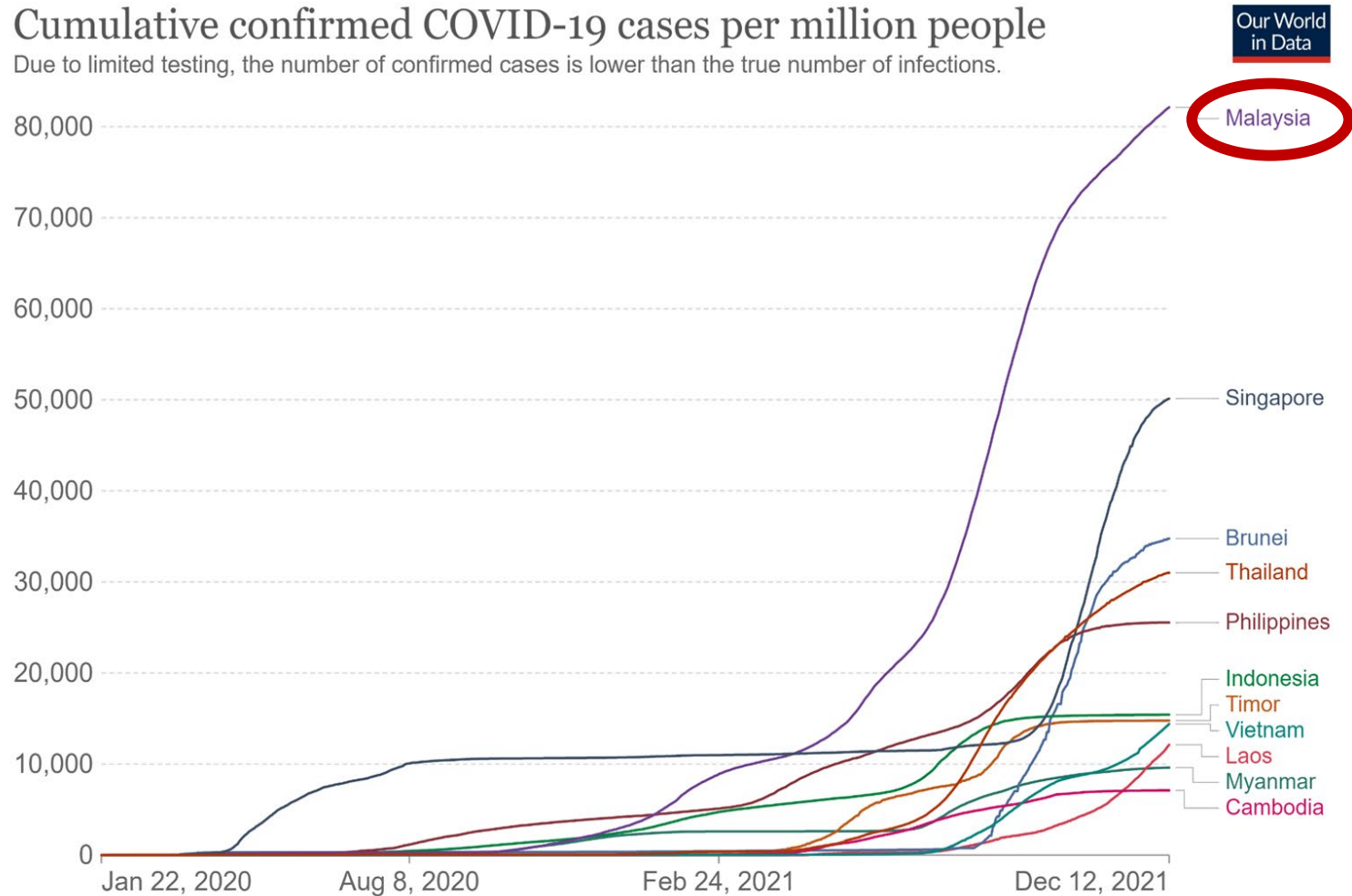
universitiputramalaysia

PERTANIAN • INOVASI • KEHIDUPAN
BERILMU BERBAKTI
WITH KNOWLEDGE WE SERVE

COVID-19 Pandemic in Southeast Asia

Cumulative confirmed COVID-19 cases per million people

Due to limited testing, the number of confirmed cases is lower than the true number of infections.



Source: Johns Hopkins University CSSE COVID-19 Data

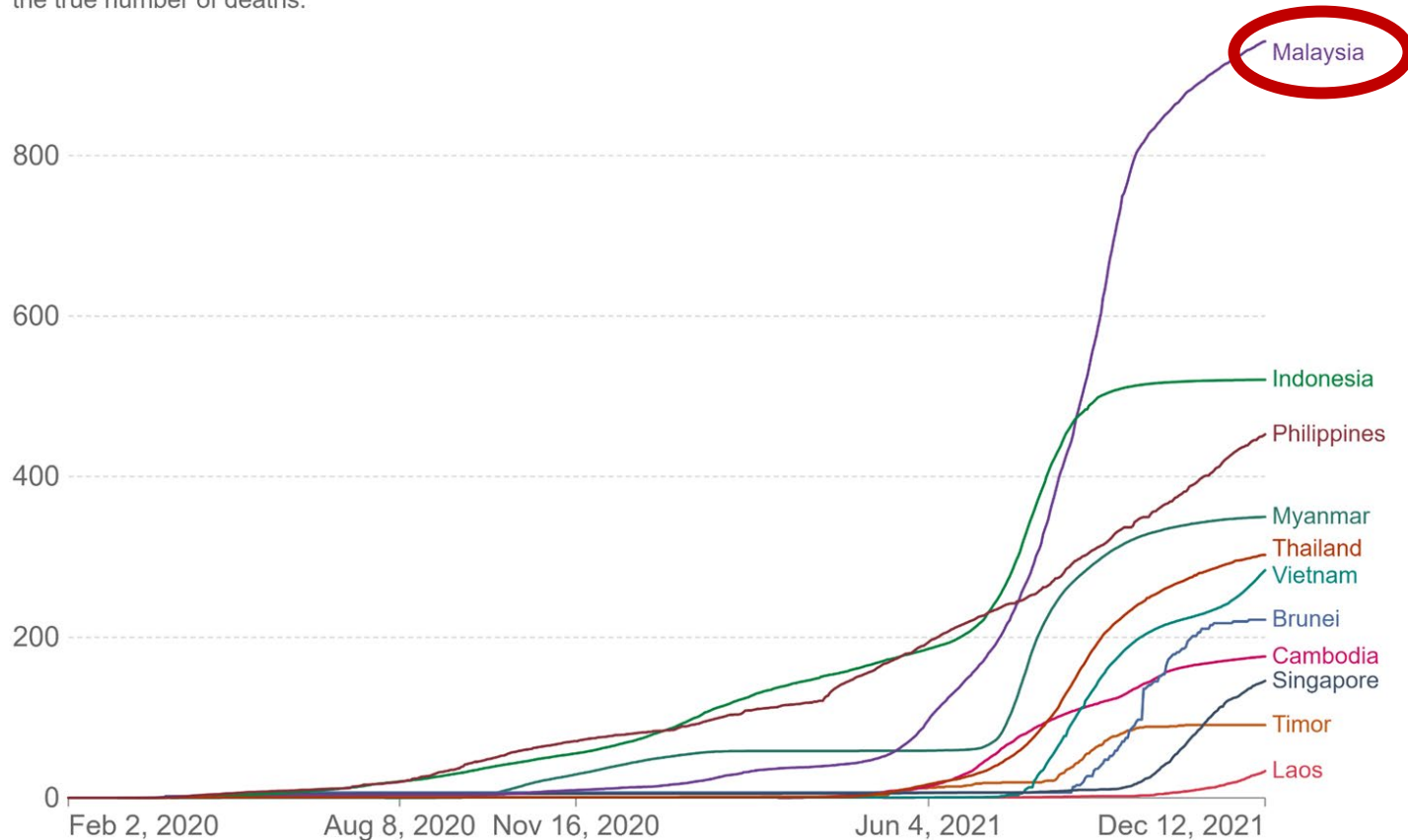
CC BY

COVID-19 Pandemic in Southeast Asia

Cumulative confirmed COVID-19 deaths per million people

Due to limited testing and challenges in the attribution of the cause of death, confirmed deaths can be lower than the true number of deaths.

Our World
in Data



Source: Johns Hopkins University CSSE COVID-19 Data

CC BY



f UniPutraMalaysia @uputramalaysia uniputramalaysia universitiputramalaysia

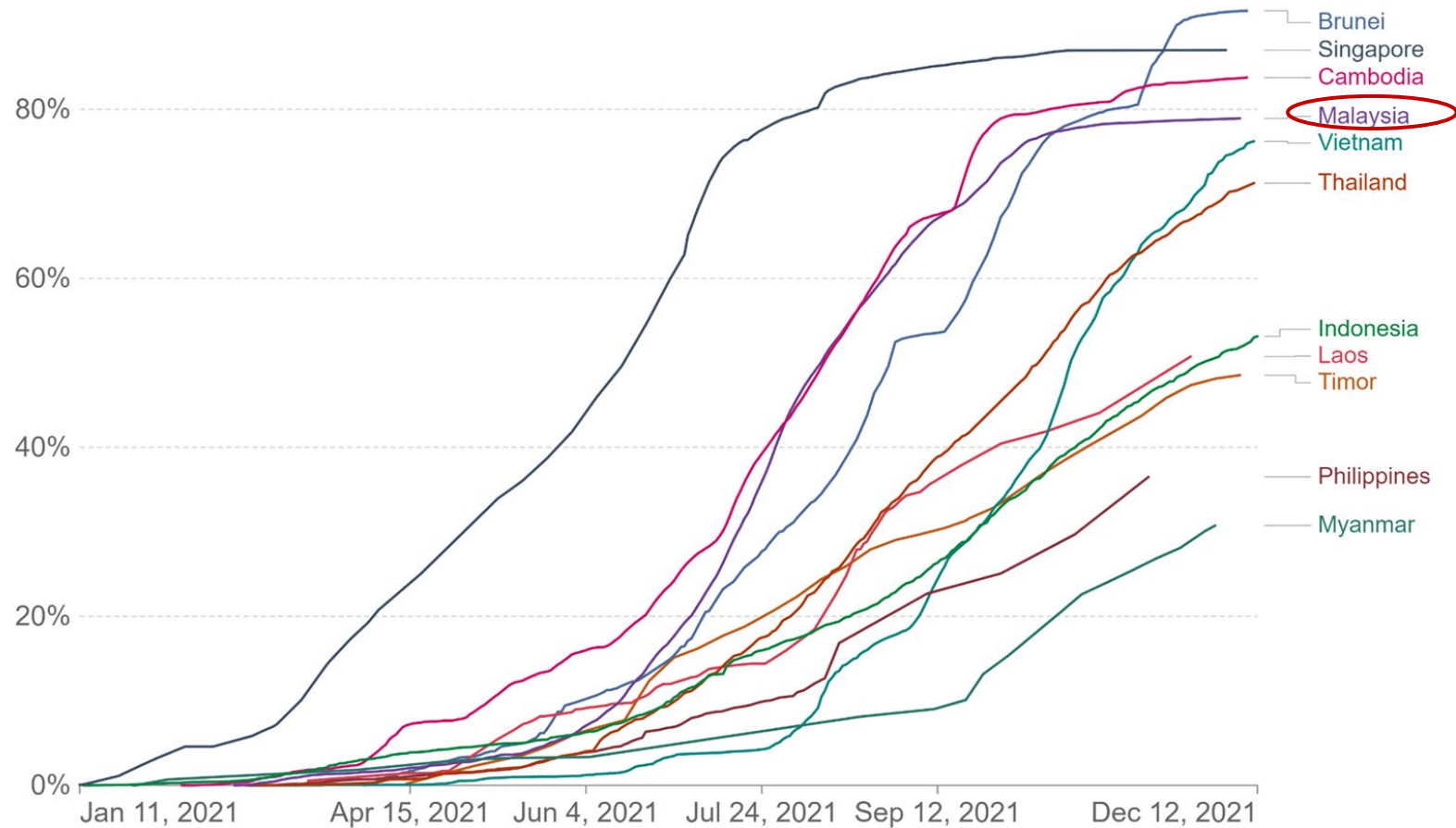
PERTANIAN • INOVASI • KEHIDUPAN
BERILMU BERBAKTI
WITH KNOWLEDGE WE SERVE

COVID-19 Pandemic in Southeast Asia

Share of people who received at least one dose of COVID-19 vaccine

Total number of people who received at least one vaccine dose, divided by the total population of the country.

Our World
in Data



Source: Official data collated by Our World in Data

CC BY



f UniPutraMalaysia

@uputramalaysia

uniputramalaysia

universitiputramalaysia

PERTANIAN • INOVASI • KEHIDUPAN

BERILMU BERGAKTI

Movement Control Order by phase

Phase	Date
Movement Control Order (MCO/PKP, 18 March 2020 - 3 May 2020)	
Phase 1	18 March 2020 - 31 March 2020
Phase 2	1 April 2020 - 14 April 2020
Phase 3	15 April 2020 - 28 April 2020
Phase 4	29 April 2020 - 3 May 2020
Conditional Movement Control Order (CMCO/PKPB, 4 May 2020 - 9 June 2020)	
Phase 1	4 May 2020 - 12 May 2020
Phase 2	13 May 2020 - 9 June 2020
Recovery Movement Control Order (RMCO/PKPP, 10 June 2020 - 31 March 2021)	
Phase 1	10 June 2020 - 31 August 2020
Phase 2	1 September 2020 - 31 December 2020
Phase 3	1 January 2021 - 31 March 2021



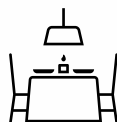
Religious congregations are allowed



Social activities allowed, at 50% capacity



Travelling across state borders are allowed



Dine-in is allowed

MCO by states (11 January 2021 - 31 May 2021)

Each states switch between MCO, CMCO, RMCO, EMCO, and semi-EMCO depending on the COVID-19 condition in each states.

Total lockdown (1 June 2021 - 28 June 2021)

National Recovery Plan (NRP/PPN, 15 June 2021 - 31 December 2021)^[5]

Phase 1	1 June 2021 - 1 October 2021 ^{[6][7]}
Phase 2	5 July 2021 (began early with Perlis, Kelantan, Terengganu, Pahang, and Perak) ^[8]
	7 July 2021 (Penang) ^[9]
	10 July 2021 (Sabah) ^[10]
	14 July 2021 (Sarawak) ^[11]
	26 August 2021 (Negeri Sembilan) ^[12]
	4 September 2021 (Melaka) ^[13]
	10 September 2021 (Selangor, Kuala Lumpur, and Putrajaya) ^[14]
Phase 3	24 September 2021 (Johor) ^[15]
	1 October 2021 (Kedah) ^[7]
	Period: 5 July 2021 - 18 October 2021. Note: No official announcement was made for Labuan.
	4 August 2021 (began early with Perlis, Sarawak and Labuan) ^[16]
	4 September 2021 (Negeri Sembilan) ^[13]
	17 September 2021 (Terengganu) ^[17]
	24 September 2021 (Pahang) ^[15]
Phase 4	1 October 2021 (Selangor, Kuala Lumpur, Putrajaya, Melaka) ^[7]
	8 October 2021 (Johor) ^[18]
	18 October 2021 (Kelantan, Perak, Pulau Pinang, Sabah, Kedah) ^[19]
	26 August 2021 (began early with Labuan) ^[12]
	24 September 2021 (Negeri Sembilan) ^[15]
	8 October 2021 (Pahang) ^{[20][18]}
	18 October 2021 (Kuala Lumpur, Selangor, Putrajaya, Melaka) ^[19]
	25 October 2021 (Johor, Terengganu) ^[21]
	8 November 2021 (Sabah, Perlis, Kedah, Penang, Perak) ^{[22][23]}



The New Normal in Malaysia

THE NEW NORMAL

World Health Organization
Western Pacific Region

Wherever you are, whether at work, home or school, you can help prevent #COVID19.

Remember to wash your hands frequently with soap and water or alcohol-based hand rub.



#StaySafe
28 June 2020

Diterbitkan : 17 NOV 2020

PATUHI SOP TINDAKAN PENCEGAHAN BERSAMA



Bersama Hentikan Wabak Covid-19

Elakkan 3S/3C

- Sesak (Crowded place)
- Sempit (Confined space)
- Sembang Dekat (Close conversation)

Amalkan 3W

- Wash (Kerap mencuci tangan dengan air dan sabun)
- Wear (Pakai pelitup muka ketika di tempat awam)
- Warn (Amaran dari KKM)

Majlis Keselamatan Negara @MKNUPM Majlis Keselamatan Negara (Rasmi) @mkn_rasmi

Tingkatkan Penilaian Kendiri COVID-19 Anda Dengan TRIIS

Apakah kaedah 'TRIIS' ?

Test (Uji)	Segera lakukan ujian pengesanan COVID-19 secara sendiri sekiranya mengalami gejala jangkitan seperti hidung berair, demam atau batuk.
Report (Lapor)	Laporkan keputusan ujian pengesanan sendiri (negatif, positif, atau tidak sah) secepat mungkin di aplikasi MySejahtera.
Isolate (Asing)	Lakukan pengasingan kuarantin sendiri dengan segera dan penuh disiplin sekiranya positif COVID-19. Patuhi perintah HSO ¹ yang ditetapkan oleh KKM.
Inform (Maklum)	Segera maklumkan kepada kontak rapat dan ahli keluarga terdekat sekiranya positif. Maklumkan pihak berkuasa kesihatan atau CAC ² berhampiran sekiranya situasi kesihatan diri semakin merosot ketika kuarantin sendiri di rumah.
Seek (Dapatkan rawatan)	Dapatkan rawatan segera di pusat perubatan atau CAC berhampiran sekiranya gejala bertambah teruk seperti kesukaran bernafas atau demam panas.

Nota : ¹HSO : Perintah Pengawasan dan Pemerhatian di Rumah
²CAC : Pusat Penilaian COVID-19

Bersama Hentikan Wabak COVID-19 moh.gov.my

Dikemaskini: 24 November 2021

#ReopeningSafely

How COVID-19 pandemic lockdowns impact on nutrition and lifestyle changes in Malaysia?

“Although the lockdown is necessary to prevent further spread of the disease, **prolonged home confinement** during COVID-19 pandemic could have led to **dramatic changes in lifestyle behaviours** of the population and **subsequent changes in body weight and health status.**”

Drywień ME, Hamulka J, Zielinska-Pukos MA, *et al.* 2020. The COVID-19 pandemic lockdowns and changes in body weight among Polish women. A cross-sectional online survey PLifeCOVID-19 study. *Sustainability*,12:7768. doi:10.3390/su12187768



Community Nutrition Research in Malaysia

Local studies related to community nutrition during COVID-19 pandemic



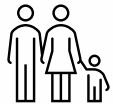
Socio-demographic disparities in the eating behaviour of Malaysian children during the COVID-19 lockdown

Sabrina Premila Joseph Louis[✉], Tan Seok Tyug[✉]

Faculty of Health and Life Sciences, Management and Science University, Shah Alam, Malaysia



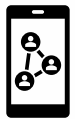
To investigate the eating behaviour of Malaysian children aged 2 to 11 years old during the MCO



204 Malaysian parents of children aged 2 to 11 years old



5-19 May 2020 using a combination of purposive and snowball sampling approaches



Online Google Form (validated CEBQ)

Key Findings


- 1) No significant differences were observed in eating behaviours according to age and parental income groups during the MCO.
- 2) Girls had a significantly higher mean score for the slowness in eating subscale than boys during the MCO.

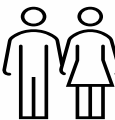
Joseph Louis, S. P., & Tan, S. T. (2021). Socio-demographic disparities in the eating behaviour of Malaysian children during the COVID-19 lockdown. *Osong Public Health and Research Perspectives* 2021, 12(3), 196-199.

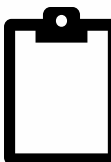
Article

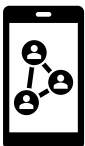
The Impact of Poor Nutrient Intakes and Food Insecurity on the Psychological Distress among Community-Dwelling Middle-Aged and Older Adults during the COVID-19 Pandemic

Nural Fatin Malek Rivan ^{1,2}, Hanis Mastura Yahya ^{1,*}, Suzana Shahar ², Devinder Kaur Ajit Singh ^{1,2}, Norhayati Ibrahim ¹, Arimi Fitri Mat Ludin ^{1,2}, Noor Ibrahim Mohamed Sakian ¹, Haulina Mahadzir ², Ponnusamy Subramaniam ^{1,2} and Mohd Zul Amin Kamaruddin ¹

 To investigate the impact of **food insecurity and poor nutrient intake** on the **psychological health of middle-aged and older adults** during the COVID-19 pandemic

 sub-sample of 535 individuals aged 52 years and above

 April to June 2020 by six trained interviewers via purposive sampling from four states (Selangor, Perak, Kelantan, and Johor)

 Telephone interviews (validated self-reported health status, physical activity, food security, and general psychological health)

Key Findings

1) 12% reported to have psychological distress, 14.8% have low food security

2) After adjusted for age, ethnic, years of education, gastritis, physical activity, and depression, **food insecurity, low protein intakes, & fiber intakes** were associated with the **psychological distress** group.

Malek Rivan, N. F., Yahya, H. M., Shahar, S., Ajit Singh, D. K., Ibrahim, N., Mat Ludin, A. F., Mohamed Sakian, N. I., Mahadzir, H., Subramaniam, P., & Kamaruddin, M. (2021). The Impact of Poor Nutrient Intakes and Food Insecurity on the Psychological Distress among Community-Dwelling Middle-Aged and Older Adults during the COVID-19 Pandemic. *Nutrients*, 13(2), 353. <https://doi.org/10.3390/nu13020353>

COVID-19 Restrictions and Maternal Experience and Infant Feeding

Nurul Husna Mohd Shukri ¹, Gan Wan Ying, Nurzalinda Zalbahar, Maiza Tusimin, Nuruljannah Mohamad Nasri



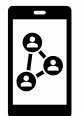
To compare postnatal experiences and feeding practices between mothers who gave birth before MCO (B-MCO) and during MCO (D-MCO)



1,051 mothers with infant under 18 months



Mom-Baby COVID-19 Study: July - October 2020 using a snowball sampling approach



Online Google Form

Key Findings

- 1) D-MCO mothers were more likely to have changed their birth plans, perceived insufficient breastfeeding supports, and experienced changes in postnatal services since MCO.
- 2) More B-MCO mothers had stopped breastfeeding during the MCO and started complementary feeding earlier than planned.

Nurul Husna, M. S., Gan, W. Y., Nurzalinda, Z., Maiza, T., & Nuruljannah, M. N. (2021). COVID-19 restriction and maternal experience and infant feeding. Nursing Research, doi: 10.1097/NNR.0000000000000568.





Key Findings

Article

Physical Activity, Sedentary Behavior, and Weight Status of University Students during the COVID-19 Lockdown: A Cross-National Comparative Study

Seok Tyug Tan ¹, Chin Xuan Tan ² and Seok Shin Tan ^{3,*}



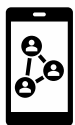
To investigate the **prevalence of physical inactivity and the patterns of physical activity** among university students in confinement.



147 **Malaysians** UG students; 107 **Indonesians** UG students



15-31 Dec 2020 using a combination of convenience and snowball sampling approaches



Online Google Form (validated International Physical Activity Questionnaire-Short Form (IPAQ-SF) , self-report weight and height)

1. **Most of the students were physically active** (> 600 MET minutes/week) during the COVID-19 home confinement (79.6% Malaysians; 77.6% Indonesians).
2. **Malaysian students devoted a significantly higher duration to walking** (M = 1386.00 MET minutes/week) **and sedentary behavior** (9.16 ± 4.47 h/day) than Indonesian students (M = 990.00 MET minutes/week and sedentary behavior = 7.85 ± 4.27 h/day).

Tan, S.T.; Tan, C.X.; Tan, S.S. 2021. Physical Activity, Sedentary Behavior, and Weight Status of University Students during the COVID-19 Lockdown: A Cross-National Comparative Study. Int. J. Environ. Res. Public Health, 18, 7125. DOI: <https://doi.org/10.3390/ijerph18137125>

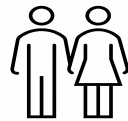
Article

Trajectories of Food Choice Motives and Weight Status of Malaysian Youths during the COVID-19 Pandemic

Seok Tyug Tan ¹, Chin Xuan Tan ² and Seok Shin Tan ^{3,*}



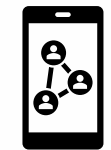
To investigate the **trajectory of food choice motives** and their associations with the weight status of Malaysian youths throughout the COVID-19 pandemic.



1013 Malaysian youths aged 18 to 30 years



Conducted from 4–11 June 2021 (during the re-enforcement of MCO) using a combination of convenience and snowball sampling approaches



Online Google Form (validated Food Choice Questionnaire, self-report weight and height)

Key Findings

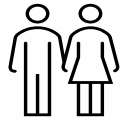
- 1) **84.6% gained weight** due to the confinement, with an average weight gain of 3.90 ± 2.92 kg.
- 2) **47.0% to 73.0%** of the youths **changed their food choice motives** in the time of COVID-19.
- 3) **Youths highly concerned for weight control were more likely to be in the weight loss category**

Tan, S. T., Tan, C. X., & Tan, S. S. (2021). Trajectories of food choice motives and weight status of Malaysian youths during the COVID-19 pandemic. *Nutrients*, 13(11), 1–11. <https://doi.org/10.3390/nu13113752>

MyNutriLifeCOVID-19 survey



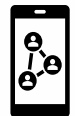
To determine the **lifestyle behaviours** and their associations with **body weight changes** among Malaysian adults during the MCO



1319 Malaysian adults aged 18 years and above



April to June 2020 using a combination of convenience and snowball sampling approaches



Online Google Form (EBQ, self-reported weight & height)

Key Findings

- 1) During MCO, 41.2% perceived their eating patterns were healthier, but 36.3% reduced their physical activities, and 25.7% had a poorer sleep quality.
- 2) The proportion of adults who reported having **lose weight (32.2%)** was almost similar to those who reported having **gained weight (30.7%)**.
- 3) Less frequent practice of healthy cooking methods and lunch skipping were associated with weight gain, while less frequent consumption of high fat foods, more frequent physical activity, and good sleep latency were associated with lower risk of weight gain.

Chin, Y.S., Woon, F.C., & Chan. Y.M. The impact of Movement Control Order during the COVID-19 pandemic on lifestyle behaviours and body weight changes: Findings from the MyNutriLifeCOVID-19 online survey. *Under Review*



MyNutriLifeCOVID-19 survey

	Malaysia: Phase I MCO 1.0: April-May, 2020	Malaysia: Phase II MCO 2.0: March-May, 2021	Indonesia: June – August, 2020
Subjects & Settings:	1337 Malaysian adults from 13 states and 3 federal territory of Malaysia	1,401 Malaysian adults from 13 states and 3 federal territory of Malaysia	697 Indonesian adults from various regions in Indonesia
Survey method:	Standardized online questionnaire (Google Form) <ul style="list-style-type: none"> - Self-report body weight and height - Disease history & perceived health status - Lifestyle habits: dietary practices and physical activity 		

Malaysia School Nutrition Promotion Programme (MySNPP)

Joint effort of nutritionists in **Johor** and nutritionists appointed by **NSM**

Online Nutrition Education



Supportive Healthy School Food Environment

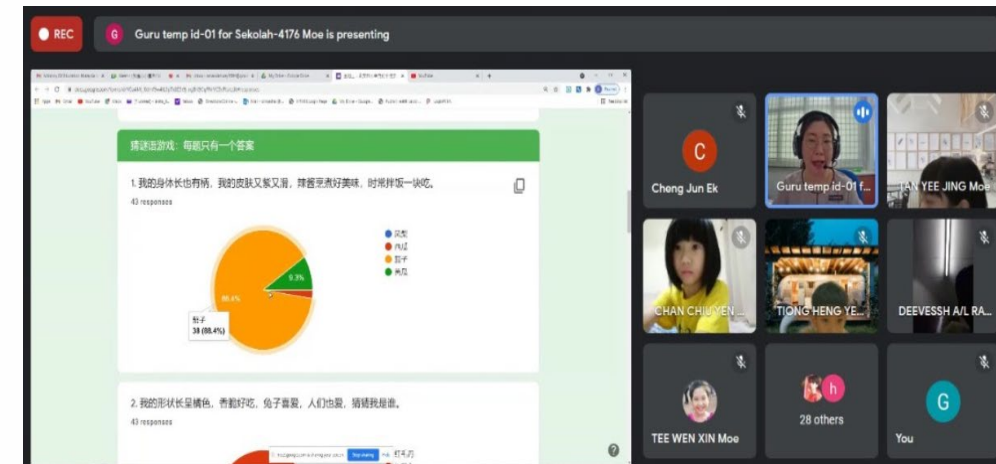


School Meal Programme (SMP)



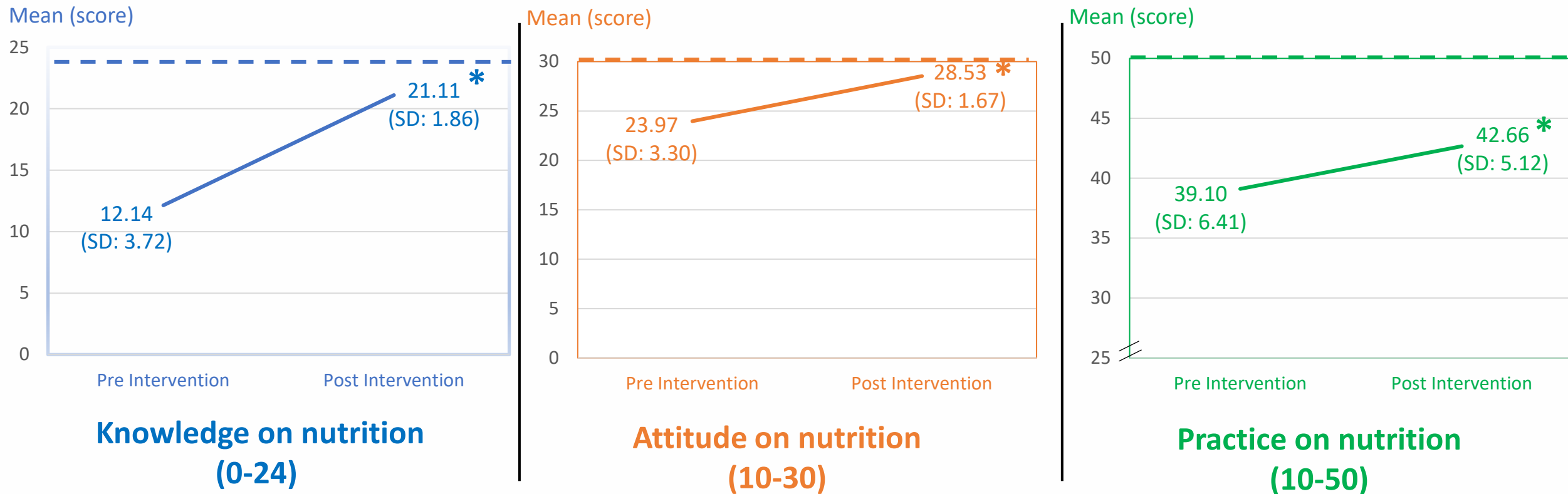
Malaysia School Nutrition Promotion Programme (MySNPP): Online Nutrition Education

- 1) Approached 5 schools (2 SK and 3 SJKC), **two SJKC schools agreed to participate** the campaign during school holiday in June 2021.
- 2) Google Form: Information Sheets, Consent Form, Questionnaire on Knowledge, Attitude and Practice on Nutrition
- 3) 4-Day Online Nutrition Education Campaigns (Google Meet; 2 topics/ 3 hours/ day; 2 nutritionists)



Malaysia School Nutrition Promotion Programme (MySNPP): Online Nutrition Education

Changes of Knowledge, Attitude and Practice on Nutrition (n=70)





The COVID-19 pandemic has intensified research challenges

- a) New research project is initiated during the pandemic
- b) Research project is revised and adapted to the pandemic situations
- c) Research project is postponed/ delayed
- d) Research project is terminated

Research methodology adaptations during COVID-19 pandemic

Opportunities and Challenges in Conducting Community
Nutrition Research during COVID-19 pandemic

Research methodology adaptations

– Subject Recruitment

Non-probability sampling methods: convenient, purposive, snowball

Digital study publicity: popular social media platforms (WhatsApp, Facebook, Instagram, Twitter)

- Matched with study-specific key demographics criteria and their interest/browsing activities

Brief research information was posted in the advertisements/ publicity materials

- Information included inclusion and exclusion criteria of the subjects
- Contacts of the researchers were attached to allow participants for enquiry

Research methodology adaptations

– Data collection

Research information sheets

- Brief/general information: advertisements/ publicity materials;
- Details of the research information sheet: digital form (i.e. Google Form)

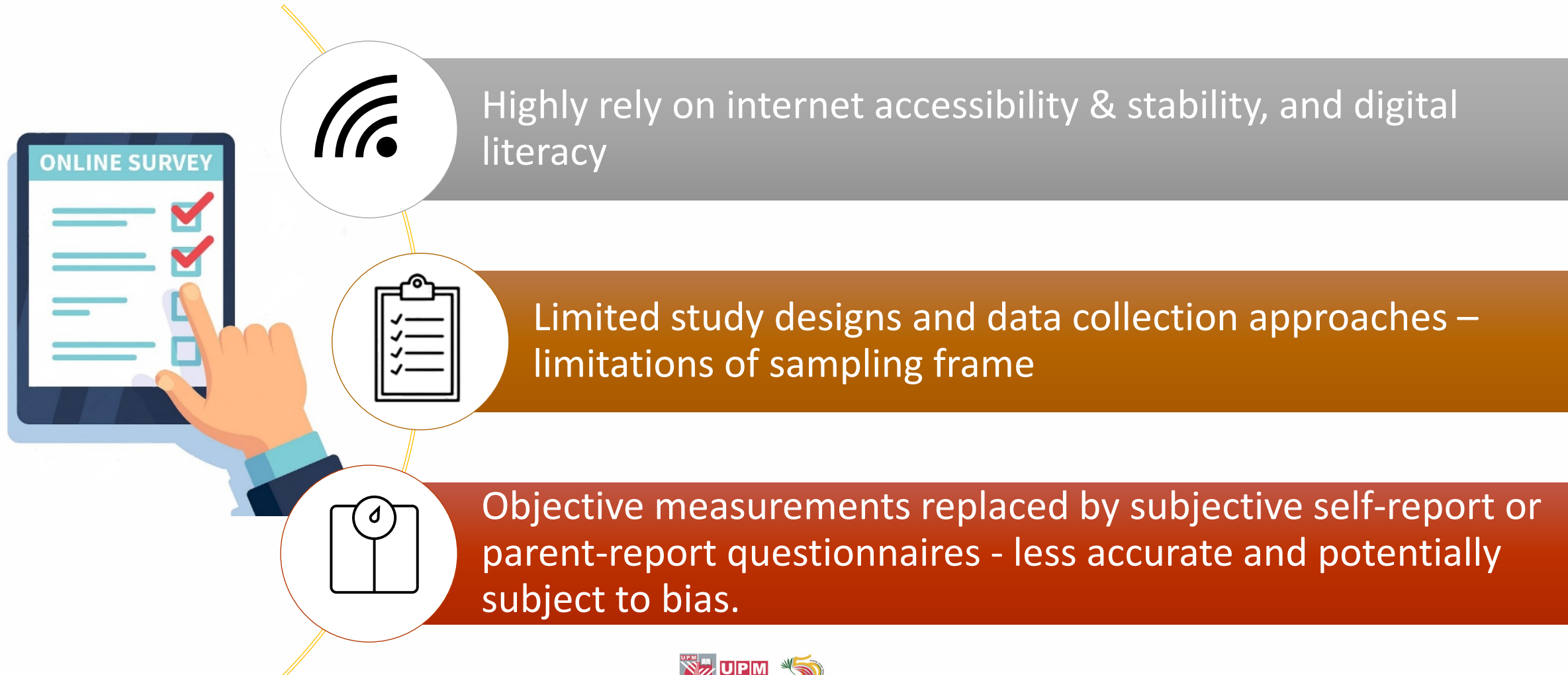
Informed consents of respondents

- E-consent via digital form (i.e. Google Form)
- Verbal consents

Self-reported questionnaires

- Self-administered: online digital form
- Telephone interviews: 20-30 minutes

Community Nutrition Research during COVID-19 pandemic – Challenges



Community Nutrition Research during COVID-19 pandemic

– Opportunities



Technological advancement
and applications in research

Virtual appointments/ Remote data collection

- Protect researchers and study subjects – risk of COVID-19 exposure

Convenience for researchers and study subjects

- Logistics arrangement – subjects can answer anytime at anywhere

Digital/ Electronic forms (paperless)

- Environmentally sustainable, easier to store and more easily accessed at a later date than hard copies.

Big data

- Expanding recruitment nationwide or cross-countries, recruitment may be completed in a much shorter timeframe



Community Nutrition Research during COVID-19 pandemic

– Suggestions for future studies

Future studies: appropriate study design, collaboration/ consortium of network, subject recruitment and sampling, data sharing, via innovative strategies and technologies

Hybrid approaches in community nutrition research



Remote research: embrace and update the technological advancement in research

- Virtual (Online) meetings, Video Calls for appointments
- Embedded guidelines (waist circumference demonstration via recorded video)

On-ground research with strict compliance of SOPs

- Logistic arrangement
- Trained researchers



Conclusion

Lesson learned: considering multiple novel approaches and high-quality, time-efficient and cost-effective research

- COVID-19 pandemic brings a new opportunity to embrace new technologies and maintain them in the future
- Critical limitations and biases potentially introduced by some modifications need to be carefully considered when implementing changes to study procedures and interpreting study results.



Terima Kasih