

SUPPLIMENTARY MEASLES IMMUNIZATION COVERAGE IN SEREMBAN, NEGERI SEMBILAN

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Introduction.....

1. Measles is prevalent in LMIC such as Malaysia¹.
2. Incident rate in Malaysia increased from 6.1(2013) to 52.1 (2017) per million population despite high MCV coverage².
3. Similarly, Seremban recorded high MCV coverage for both doses in 2022.
4. During measles outbreak, SIAs are conducted to deliver SMV to all targeted individuals regardless of their PMV status to rapidly raise population level immunity and to control measles transmission³.
5. Successful SMV coverage is determined by 95% children vaccinated during SIA⁴.
6. Recent measles outbreak in Gadong Jaya, Seremban with 6 confirmed cases called for an urgent district SIA.

Objective.....

1. To describe SMV coverage and characteristics in Gadong Jaya.
2. To explore challenges of SIA in Gadong Jaya and recommendations.

Materials and Methods.....

1. Study design: Cross-sectional.
2. Operational definition: SIA is defined as a single-day, centralized SIA (cSIA) where immunizations were conducted in local mosque as cSIA centre with subsequent SIA follow-up at nearest health clinic and home visit for a month (till outbreak cessation).
3. Study duration: 26.3.2023 - 25.4.2023
4. Study population: Taman Gadong Jaya and Taman Gadong Indah (1152 houses)
5. Inclusion criteria: Children aged between 1 and 7 years old
6. Exclusion criteria:
 - i. Children with severe allergy after previous dose of MMR
 - ii. Symptomatic (fever, upper respiratory infection) (n=9)
 - iii. Measles immunization less than 1 month prior to SIA (n=7)
 - iv. Immunodeficient children (n=1)
7. Study instrument: Google Form (proforma)
8. Data collection techniques:
 - i. Parental consents were retrieved and being referred to the cSIA centre.
 - ii. For houses with absent occupants, notice of reminder was placed to require them to go for SMV at nearest clinic in 3 working days.
9. Data analysis: Descriptive analysis using SPSS V26.

Results and Discussion.....

Table 1: Distribution of Eligible Children based on SIA Characteristics (N=315)

Demographic Characteristics	Frequency (%)
Age groups (years)	
1-3	102 (32.3)
4-7	213 (67.7)
Gender	
Male	177 (56.1)
Female	138 (43.9)
Ethnicity	
Malay	312 (99.0)
Indian	3 (1.0)
Prior Measles Vaccination Status	
Complete	308 (97.8)
Incomplete	7 (2.2)
Received SIA Immunization	
Yes	271 (86.0)
No	44 (14.0)
Absent during SIA, loss to clinic follow-up and home visit	26 (8.2)
Parental refusal	18 (5.7)

SMV Coverage: 86% (low)

Contributing factors:

1. Poor parental perception on the importance of SMV during outbreak.
 - i. PMV is believed to be sufficient to protect their children from measles infection. Recent study in Selangor showed poor knowledge level in measles vaccination among parents despite possessing good routine measles vaccination practice⁵.
 - ii. Perceive SMV as unimportant despite rigorous SIA promotion and health education.
2. Resource-intensive.
Financial and human resources are critically required in:
 - i. SIA health promotion and health education
 - ii. vaccine storage, transportation and administration, and
 - iii. employees overtime payment
 Hence, centralized SIA was employed over house-to-house approach.
3. Transportation difficulties for parents to bring the children to the SIA centre.
Therefore, a mobile vaccination team was deployed from the cSIA centre to their houses for measles immunization.

The main limitation

1. The possibility of children unregistered during cSIA survey.
 - i. Although notice of reminder was placed at each house with absent occupants, they may have not complied with the request to seek SMV at nearest clinic.
 - ii. Home visit by medical personnels also were unfruitful since they were constantly absent.

Recommendations:

1. Future research on perception and acceptance of SMV among parents during SIA.
2. Future SIA may employ local leaders or other agencies (DOSM) to gain information on children occupancy in residential house, but this strategy may be time-consuming.

Conclusion.....

The SMV coverage during SIA in Seremban was low. The challenges and limitation identified may provides insights to future researches and preventive strategies in maximizing SMV coverage during SIA.

References.....

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Abbreviation.....

- LMIC: Lower-and Middle-income Country
- MCV: Measles containing vaccine
- SIA: Supplementary Immunization Activity
- PMV: Prior Measles Vaccination
- SMV: Supplementary Measles Vaccination
- cSIA: Centralized SIA
- DOSM: Department of Statistics, Malaysia

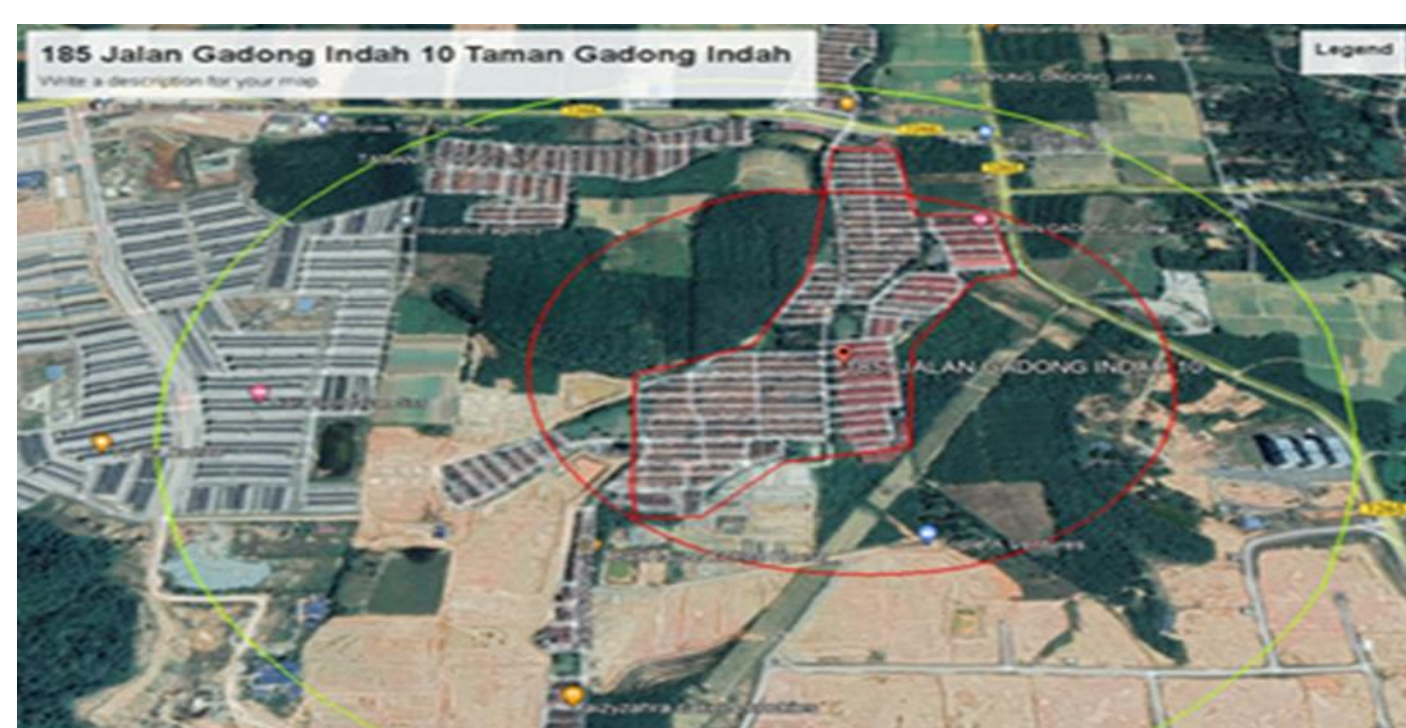


Figure 1: Coverage area for SIA



Figure 2: SIA Centre



Figure 3: Registration Corner



Figure 4: Vaccination Corner



Figure 5: Data Collection using Google Form



Figure 6: Mobile vaccination team



Figure 7: Seremban SIA Team