MEASLES IN IMMIGRANT POPULATION IN INTERIOR SABAH, MALAYSIA

Dr Ahmad Akmal Bin Ahmad Nizam, Mohd Shymer Bin Amir Hassan, Dr Abdul Marsudi Bin Manah
Keningau Health District, Sabah
Malaysia

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INTRODUCTION

• Measles Elimination Programme (MEP) in Malaysia was started in 2004 and targeted elimination by 2010. However, this target has not been achieved and revised target was set as 2018.

• Low vaccine coverage at the health centers and delayed laboratory result hinder measles elimination. (Chinnayah, 2017)

• Screening and vaccination campaigns in the migrant population, could represent a resource to reach an adequate measles immunization coverage and to control this infectious disease. (Ceccarelli et al, 2018)
INTRODUCTION: Interior Sabah, 2018

Total area: 13,378 km²
Total populations: 364,900

- **KENINGAU**
  - 215,600 populations
  - 3,533 km²

- **TENOM**
  - 67,600 populations
  - 2,409 km²

- **TAMBUNAN**
  - 42,600 populations
  - 1,437 km²

- **NABAWAN**
  - 39,100 populations
  - 6,089 km²
Comparison: State of Terengganu and Interior Sabah

Terengganu
Total area: 13 035 km²
Total populations: 1 210 500

Interior Sabah
Total area: 13 378 km²
Total populations: 364 900
Problem Statement

- High number of immigrant and stateless people
- Most works at oil palm and timber plantations, logging company
- Some mix with locals
- Unknown vaccination status
### Literature Review

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<tr>
<th>Title</th>
<th>Author</th>
<th>Year</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Susceptibility to measles in migrant population: implication for policy makers.</td>
<td>Ceccarelli G. et al</td>
<td>2018</td>
<td>The prevalence of subjects with positive result for measles IgG antibodies ranged between 79.9% and 100%</td>
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<td>The Reemergence of Measles</td>
<td>Abad CL, Safdar N</td>
<td>2015</td>
<td>Vaccination coverage, especially among young adults remains poor.</td>
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<td>Impact of a measles elimination strategy on measles incidence in Malaysia.</td>
<td>Saraswathy TS. et al</td>
<td>2009</td>
<td>Laboratory confirmed measles cases dropped from 42.2% in 2004 to 3.9% in 2007. Screening for measles IgG levels in 2008 showed that 82.8% of those &gt; 7 years old had adequate immunity.</td>
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<td>Serological assessment of the establishment of herd immunity against measles in a health district in Malaysia.</td>
<td>Hazlina Y, Marlindawati MA, Shamsuddin K</td>
<td>2016</td>
<td>Seropositive rate differed by age with the highest rate seen in adults (94%) followed by children (90%) adolescents, and young adults (74%)</td>
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GENERAL OBJECTIVES

- To describe measles cases in Interior Sabah from 2011 to 2018 based on citizenship
- To describe strengths, weakness, opportunities and threats (SWOT) in managing outbreak involving unknown immunization status community
METHODOLOGY

• Study period:
  ◦ From January 2011 – December 2018
• Study design:
  ◦ Descriptive study
• Sampling method
  ◦ Cases collected from national electronic measles database (e-measles) and national notification database for infectious diseases (e-notification)
RESULTS

Measles case in Interior Sabah 2011 - 2018

Total cases

Total notification

Keningau  Tenom  Tambunan  Nabawan

RESULTS

Incidence rate and notification rate in Interior Sabah 2011 – 2018, per 1,000,000 populations
RESULTS

Measles cases among immigrant and locals

- 1 case from Keningau: IR: 17
- 3 cases from Nabawan: IR: 48
- 2 cases from Keningau: IR: 31
Measles outbreak in immigrant community in Interior Sabah, 2018

- On 7th August 2018, we received a notification of measles. A 13 yo girl presented with fever, rashes and cough, recently went to East Sumba, Indonesia on early July with her family.
- Further active case detection found her younger brother also had the same symptoms and both went to school during illness. Both are unknown immunization status.
- Measles IgM for both were positive.
Travel History

- Went to East Sumba from Keningau on 16th June and entering Tawau (Malaysia) on 22nd of July by ferry and land transportation.
Control Measures

Active case detection

Supplementary Immunization Activities (SIA) at quarters
Control Measures

Supplementary Immunization Activities (SIA) and talk at school
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<th>SWOT Analysis</th>
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<td><strong>Strength:</strong> Rapid detection, notification and control measures</td>
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<td><strong>Weakness:</strong> Low level of awareness regarding the locality of high risk population</td>
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<td><strong>Opportunity:</strong> Strong cooperation and communication between health and education department</td>
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<td><strong>Threat:</strong> High turnover of foreign and unknown immunization status pupils</td>
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CONCLUSION

- Measles incidence is in decreasing trend in Interior Sabah.
- To achieve elimination of measles in Sabah, focus should be on non local people while maintaining the current national immunization program.
- Different approach and strategy should be adopted in preventing and managing infectious diseases in non locals.
Thank You For Your Attention