Infant lives matter

By: Gorup 2

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Decreasing infant mortality in ASEAN countries
Increasing Infant Mortality In Developing ASEAN Countries

Objective:

The UN goal: By 2030, preventable deaths of children under 5 years of age should be reduced. All countries should aim to reduce under-5 years old mortality to no higher than 25 per 1,000 live births.

Our aims:
Analyse possible reasons for high infant mortality rates
Provide suggestions to decrease infant mortality in ASEAN countries, notably Cambodia, Lao People's Democratic Republic, Vietnam and Myanmar.*

* Singapore is used in some charts as a comparison.
Infant Mortality Rate

Infant mortality: number of deaths per 1000 live births of children <1 year of age.

Key analyses:
- For all countries, there is an overall **decrease** in infant mortality.
- **Myanmar** shows the **greatest** decrease (55%), from 81% in 2004 to 26% in 2012.
- **Singapore** showed the **smallest** decrease (0.2%) 2% in 2004 to 1.8% in 2012.
- From 2004 to 2012, **Lao People’s Democratic Republic (PDR)** has the **highest** infant mortality rate: 86% in 2004, 61.8% in 2008 and 51.5% in 2012.
- **Singapore** has the **lowest** infant mortality rate: 2% in 2004, 2.1% in 2008 and 1.8% in 2012.
- **Singapore** has met the **UN goal** in 2012, with **18** deaths per 1000 live births.
- Cambodia, Myanmar, Lao’s PDR and Vietnam has yet to achieve this with **330, 515, 260, and 154** per 1000 live births respectively in 2012.
Increase in government expenditure in healthcare can decrease infant mortality:

- Investment of new healthcare facilities.
- Provide better care for mothers.
- Ensure good health of newborn infants.

**Key analyses:**

- **All** countries except Cambodia showed an increase in government expenditure from 2011 to 2015.
- The **largest** increase (667.6 million) was by the Singapore government, from 360.2 million in 2011 to 1027.8 million in 2015.
- The **smallest** increase (10.8 million) was by the Lao PDR government, from 14.4 million in 2011 to 25.2 million in 2015.
- Cambodia’s government expenditure in healthcare decreased by 127 million, from 148.1 million in 2011 to 21.1 million in 2015.
Physician density: number of medical doctors per 1000 of a population.

Higher physician density ensures:
• Hospitals are sufficiently staffed.
• Employed doctors are not overworked.
• Improve healthcare services for all patients.
• Improve infant health.
• Decrease infant mortality.

Key analyses:
• **Singapore** had the **highest** physician density (1.82%) in 2012.
• **Cambodia** had the **lowest** physician density (0.165%) in 2012.
• There is an overall **increase** in physician density from 2008 to 2012, with the exception of **Cambodia** and Lao’s PDR.
• **Cambodia’s** physician density decreased by 0.06% from 0.24% to 0.18%
• **Lao’s PDR’s** physician density decreased by 0.02% from 0.2% to 0.18%.

Graph 3: Physician density per 1,000 of population over the years

- **Myanmar**: 0.568%
- **Cambodia**: 0.165%
- **Singapore**: 1.82%
- **Vietnam**: 1.27%
- **Lao’s PDR**: 0.179%

<table>
<thead>
<tr>
<th>Year</th>
<th>Lao’s PDR</th>
<th>Cambodia</th>
<th>Myanmar</th>
<th>Singapore</th>
<th>Vietnam</th>
</tr>
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<tbody>
<tr>
<td>2008</td>
<td>0.24</td>
<td>0.48</td>
<td>0.24</td>
<td>1.62</td>
<td>1.24</td>
</tr>
<tr>
<td>2009</td>
<td>0.23</td>
<td>0.48</td>
<td>0.23</td>
<td>1.68</td>
<td>1.12</td>
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<tr>
<td>2010</td>
<td>0.23</td>
<td>0.51</td>
<td>0.23</td>
<td>1.74</td>
<td>1.13</td>
</tr>
<tr>
<td>2011</td>
<td>0.23</td>
<td>0.54</td>
<td>0.23</td>
<td>1.75</td>
<td>1.15</td>
</tr>
<tr>
<td>2012</td>
<td>0.18</td>
<td>0.57</td>
<td>0.18</td>
<td>1.82</td>
<td>1.27</td>
</tr>
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</table>
Nurse-midwifery personnel per 1,000 population.

Responsibilities of nurses:
- Autonomous and collaborative care of individuals
- Promote health and prevention of illness
- Care for the ill, disabled, and dying.

Responsibilities of midwives:
- Care for mothers during pregnancy, labour, and the postpartum period
- Care for the newborn.

Lower nurses-midwives density results in:
- Less manpower to aid physicians
- Less attention given to infants.

Key analyses:
- There is a general, slow increase in nurses-midwives density from 2008 to 2012.
- The nurses-midwives density in Cambodia only increased by 0.08% from 0.84% in 2008 to 0.92% in 2012.
- Nurses-midwives density in Myanmar increased by 0.12% in the same 5-year span from 0.81% in 2008 to 0.93% in 2012.
- This could explain the significantly smaller decrease in infant mortality rate of 3.5% (from 29.50% to 26.00%) in Myanmar as compared to that in Cambodia of 27% (from 60.00% to 33.00%).
- The greater the increase in nurses-midwives density, the greater the decrease in infant mortality.
Undernourished population: calorie intake is insufficient to meet the minimum energy requirements of the population.

Maternal malnutrition:
- Increases risk of miscarriages and foetal deaths during pregnancy and pre-term delivery.
- Causes low birth weights in newborns.
- Impairs development of healthy immune systems.
- Increases infant mortality.

Key analyses:
- In 2012, **Vietnam** has the lowest percentage of undernourished citizens (13.00%).
- Vietnam had a low infant mortality rate (15.4%) in 2012.
- **Laos** has the highest percentage of undernourished citizens (20.10%) in 2012.
- It also had the highest infant mortality (51.50%) in 2012.
- The smaller the undernourished population, the lower the infant mortality rate.
- **No data** is available for **Singapore**:
  o Developed country with a high per capita gross national income.
  o Malnutrition is not expected to occur.
Conclusion

The general decreasing trend seen in **infant mortality rate** in ASEAN countries can be explained by four factors: government expenditure in healthcare, physician density, nurses-midwives density and % of undernourished population.

1) Increase in **government expenditure in healthcare** entails more money being spent on improving healthcare services to ensure that healthy infants are born, thus reducing the risk of infant mortality.

2) Increase in **physician density** in ASEAN countries leads to more physicians being employed, more attention given to patients and thus better healthcare services. This increases the birth of healthy infants.

3) An overall increase in **nurses-midwives density** in ASEAN countries increases number of nurses and midwives. More assistance is provided to physicians and patients, boosting healthcare services being provided to patients and producing healthy infants.

4) Decrease in **undernourished citizens in a population** could mean that more nourishment is provided to mothers and infants to aid their growth and development, enabling healthier and stronger infants being born.
Recommendations to further decrease infant mortality

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<tr>
<th>1) Low cost strategies</th>
<th>2) Free immunization for pregnant mothers,</th>
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<tr>
<td>• Providing vitamin A supplements</td>
<td>• Eg whooping cough and flu vaccines</td>
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<tr>
<td>• Encouraging breast feeding</td>
<td>• Prevents infection and increases infant immunity</td>
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<th>3) Increase awareness of the causes of birth defects</th>
<th>4) Providing safe sleep environment</th>
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<td>• Eg smoking, alcohol abuse and drug use</td>
<td>• Reduce risk of Sudden Unexpected Infant Death (SIDS).</td>
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<td>• Encourages pregnant mothers to refrain from such lifestyles (How many people are affected by/at risk for birth defects?, 2017).</td>
<td>• Eg lay baby on their back when asleep, keep sleep area free of clutter and toys (American Academy of Pediatrics Task Force of Sudden Infant Death Syndrome, 2011).</td>
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References

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