

VACCINE HESITANCY: CONTEMPORARY MOVEMENT AND MALAYSIAN RESPONSE

BY

PROF DR NOOR HAZILAH ABD MANAF*

DR MOHD AZAHADI OMAR**

DR FATIN HUSNA SUIB*

**Department of Business Administration, Kulliyyah of
Economics and Management Sciences, IIUM

*Institute of Public Health, Ministry of Health Malaysia

Introduction

- Rising incidence of vaccine hesitancy in many countries
- Vaccine stimulates own body's immune system to protect against disease and future infection
- Increase in vaccine-preventable diseases (VPDs) due to parents' refusal
- WHO (2019) identified vaccine refusal among Ten Threats to Global Health

- Antivax, antivaxxers, antivaccine, vaccine sceptics, vaccine refusal, vaccine rejection – terms used to denote vaccine hesitancy
- WHO - ‘delay in acceptance or refusal of vaccination despite the availability of vaccine services’
- Range outright refusal to all recommended vaccines; to delayed or refusal of only certain vaccines
- VH is *NOT* under vaccination
- -access due to poverty at personal level
- -national level- lack of resources or weak public health infrastructure
- VH - vaccine available but parents refuse to vaccinate

Factors for VH

- Vaccine safety
- Conspiracy theories
- Religious beliefs
- Freedom of choice
- Social media and internet
- Decreasing trust of state and medical authorities

Increase in VH globally

- In California, personal belief exemptions increased 380% from 1996 to 2010
- Measles eliminated in US in 2000 but outbreaks 2008, 2011, 2013 and 2014
- In 2014, California passed Senate Bill 277, which bans personal and religious exemptions from vaccination
- In UK, MMR rate from 92% (1996) to 84% (2002). Some parts of London, as low as 61% in 2003
- UK, Greece, Albania, Czech Republic lost measles free status in 2019
- Germany, 170 new cases of measles Jan-Feb 2019 - pass law vaccination compulsory
- Australia - 26000 parents objected to having their children vaccinated in 2010, doubled from 12,050 in 2000

Early VH

- As old as Edward Jenner's use of cowpox virus for immunity against smallpox in 18 th century
- In UK, poor working class children vaccinated by state-paid vaccinators while doctors vaccinated wealthy middle class children
- In US , resistance in early 1900 because compulsory – died out – improvements in medicine and state control over public health

Contemporary movement

- Can be traced to television documentary ‘DPT: Vaccine Roulette’ - pertussis vaccine has potential to cause brain encephalitis, brain damage and even death
- Unhappy parents formed “Dissatisfied Parents Together” (DPT) headed by Barbara Loe Fisher
- National Childhood Vaccination Act 1988
- Judge in Kansas found Wyeth negligent in producing pertussis vaccine
- In Canada, court dismissed \$15 million lawsuit, UK also dismissed lawsuit by brain damaged girl

Biggest influence on contemporary VH movement

- Andrew Wakefield publication in Lancet (1998) – measles vaccine in MMR react with intestine - produce autism-causing substance
- Intense media coverage in UK
- In US, wave of sentiment against vaccines –publications of books etc
- Celebrity endorsement- Jenny McCarthy and Jim Carey on Oprah and Larry King
- High profile figure – Robert F Kennedy and Donald Trump
- Wakefield - discredited by scientific community, exposed as fraud and withdrawn by Lancet – sow seed of doubt

Success of vaccines

- Paradox of *value* in medicine

widespread use of vaccine diminish or eliminate risk of disease; also diminish perception of *value* of vaccine

- Do not see impact of disease, therefore perceive no benefits of vaccine or little benefits

Parents and their parents do not see the impact of VPDs

Doctors also do not observe case of VPDs

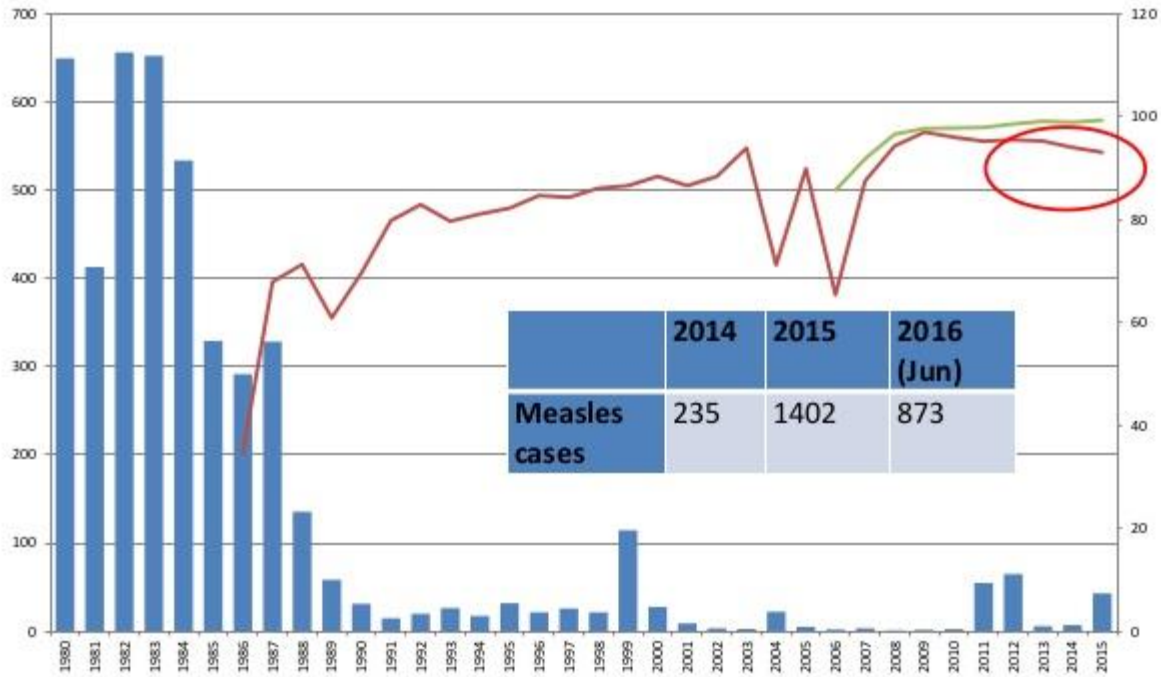
Success of Vaccines- measles

- one of most highly contagious diseases caused by a virus – infectivity close to 100%
- Before vaccines, infect more than 30 million children annually; one million deaths
- Fiji islands lost one quarter population when measles introduced in 1975
- From 2000 to 2018, global measles death dropped by 73% due to vaccination
- disease is still common in many developing countries – 140,000 deaths in 2018
- Herd immunity – 96% to 99% for measles

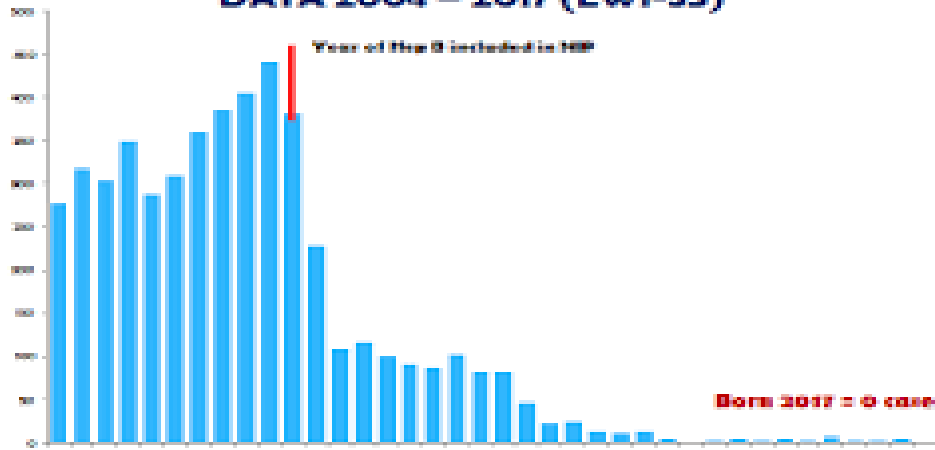
VH in Malaysia

- National Immunisation Programme (NIP)-introduced in 1950s
- cover twelve major childhood diseases which include diphtheria, hepatitis B, measles, mumps, pertussis, poliomyelitis, rubella, tetanus and tuberculosis
- Strong public health infrastructure, immunisation coverage more than 90%
- Increasing trend in VH
- Vaccine rejections by parents - 918 (2014) to 1903 (2016)

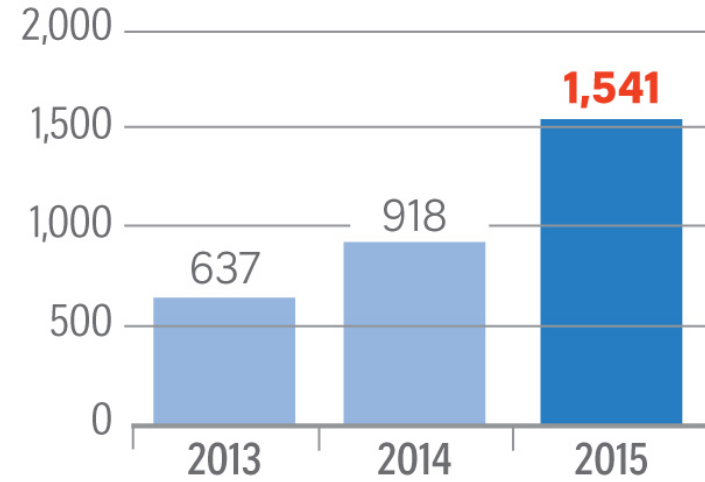
Bilangan Kes Measles di Malaysia; 1980 – 2015



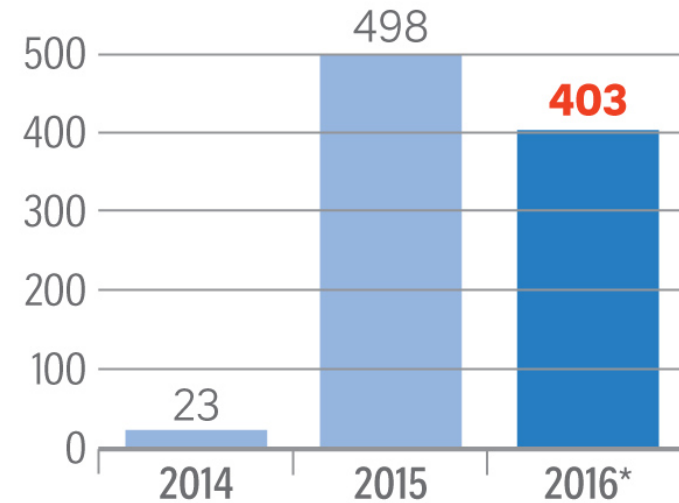
HEPATITIS B CASES BY YEAR OF BORN 'DATA 2004 – 2017 (EW1-35)'



Cases of parents rejecting vaccination



Cases of measles (Selangor)



*Jan to March

VH in Malaysia

- Kedah - among the most vaccine rejection cases -139 vaccine refusal in 2017, and recorded 17 cases of diphtheria from 2015 to 2017
- In 2018, a two-year old girl died in Miri, Sarawak from diphtheria. Parents chose not to immunise due to concerns on *halal* status of vaccine
- In 2019, 5 children in Johor had diphtheria after coming into contact with a two-year old toddler who died from the disease. The children did not receive diphtheria immunisation
- Pertussis - four-fold increase from 222 in 2013 to 939 cases in 2015
- Kedah, Perak, Terengganu, Pahang and Kelantan are states with high vaccine refusal among parents, with Kedah being the highest.

VH demography

- Countries with higher education level and better access to health services are associated with lower rates of positive sentiments towards vaccine - particularly negative in Europe
- US - tend to white, college-educated and have higher than average income
- Malaysia - urban, middle-class, educated
- children with mothers who received antenatal care at private facilities - seven times at higher risk of incomplete immunisation

Influencing Factors

□ Internet and social media

- locus of power shifts from physicians as experts to patients
- With shift in power - erosion of trust in experts
- Postmodern medical paradigm
 - questions legitimacy of science and the authority
 - preoccupation with risks rather than benefits
 - the rise of well-informed patient
- High level of trust on information from internet

Influencing Factors (cont.)

□ Personal choice and individual right

- acceptance of thoughts and ideologies behind VH pose greater challenges
- Personal choice or prochoice and parents' right against government overreach
- Barbara Low Fisher's call for action for '*your health, your family, your choice*' - American individualism
- Asian/Muslim societies – collectivist?
- Local group identifies itself as 'prochoice'

Influencing factors (cont.)

- ❑ Conspiracy theory – attempts to explain events as secret plot of the powerful and malevolent groups
- ❑ VH - conspiracy of big pharma collude with government for huge profit
 - Cover information on harmful side-effects of vaccines
 - Inflating statistics on vaccine efficacy and safety
- ❑ Extension theory
 - Western plot to weaken Muslims by giving vaccine to children
 - Jewish conspiracy against Muslims

Influencing factors (cont.)

❑ Religious reasons and alternative medicine

- Use of aborted human fetus in rubella component of MMR vaccine
- Animal derived gelatine of porcine or bovine components
- ❖ In Malaysia highest reason for vaccine rejection is halal/haram issue, alternative medicine and vaccine safety
- ❖ Alternative medicine especially homeopathy- believe in 'homeopathic vaccine' which is safer
- ❖ So VH tends to be Malay and believe in homeopathy

Discussion and conclusion

- VH is frustrating challenge to public health – not due to resource constraints
- Missionary zeal of VH parents in spreading their beliefs
- In 2019, both Fb and Google announced they will curtail misinformation on vaccines on internet
- Not remove but will not make it easier to find or appear on first page
- Most VH in Malay/Muslim states – Kedah, Kelantan, Terengganu
- Strong commitment to homeopathy as Islamic alternative
- National data needs to capture private healthcare facilities data (20%)

Thank you