

HPV Vaccination Program in Indonesia: Effectiveness, Scale-Up Costs, Future Prospects, and Policy Recommendations

Didik Setiawan^{*1,2}, Putri Ramadani², Lianawati², Githa Fungie Galistiani¹

1. Dept. Social and Administrative Pharmacy, Faculty of Pharmacy, Universitas Muhammadiyah Purwokerto, Banyumas, Indonesia
2. Center for Health Economic Studies, Universitas Muhammadiyah Purwokerto, Banyumas, Indonesia

Introduction

- Vaccination against cervical cancer has been introduced into the national immunisation programs by 60% of World Health Organization (WHO) member states.
- Yet only 13% of female adolescents on the global scale received HPV vaccination.
- In addition, as of 2019, only 19% of low-middle-income nations had implemented HPV vaccination, compared to 77% of countries in Europe and 85% of countries in the Americas
- Therefore, in response to this case, financial planning and implementation of an effective and efficient HPV immunisation program are crucial.
- Current WHO recommendation regarding single dose

Methods

- Review literature
- Considering current situation in Indonesia
- Stakeholders engagement (MoH, pharma manufacturer, NGO, province and district health departments)
- Other countries benchmark

HPV types	Prevalence of Infection (%)	Vaccine efficacy (%) (b)		
	(a)	Bi-	Quadri-	Nona
16	47	95	95	95
18	20	95	95	95
31	0	79	0	95
33	30	56	0	95
45	6	76	0	95
52	6	0	0	95
58	0	0	0	95
Vaccine efficacy (axb)		0.79	0.64	0.94

Results

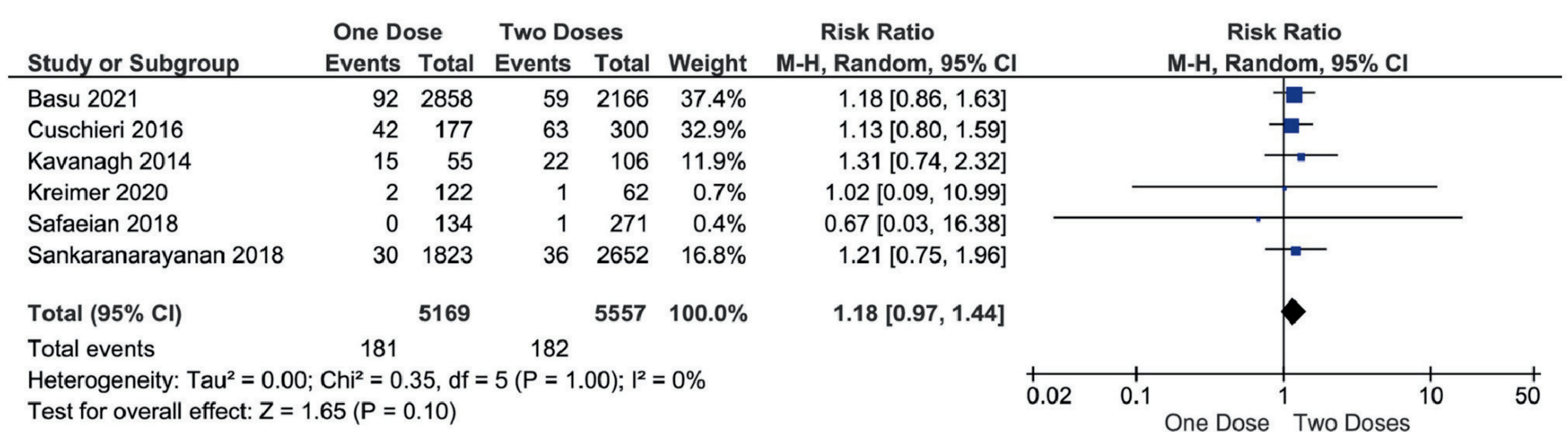


Fig 5. The effectiveness of one- and two-doses HPV vaccine on preventing HPV16 and HPV18 infection.

<https://doi.org/10.1371/journal.pone.0290808.g005>

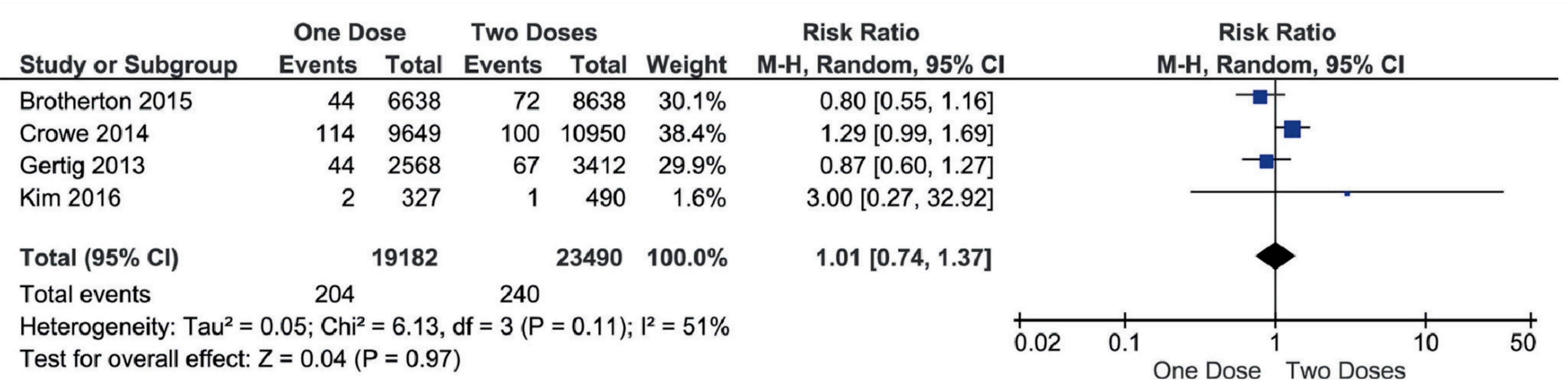


Fig 9. The effectiveness of one- and two-doses HPV vaccine on preventing HSIL or ASC-H incidence.

<https://doi.org/10.1371/journal.pone.0290808.g009>

Procurement	Targeted Female Children					
	2023		2024		2025	
	Dose 2	Dose 1	Dose 2	Dose 1	Dose 2	Dose 1
Indonesia	740,767	2,153,471	2,148,219	2,149,366	2,141,674	2,144,188
Gardasil through government (Rp)	522,777,527,226		776,259,885,795		774,142,395,474	
GAVI/UNICEF Bivalent (Rp)	234,433,278,000		348,104,385,000		347,154,822,000	
GAVI/UNICEF Quadrivalent (Rp)	230,091,921,000		341,658,007,500		340,726,029,000	
GAVI/UNICEF Nonavalent (Rp)	334,284,489,000		496,371,067,500		495,017,061,000	
Procurement	Targeted Female Children (Grade 5 and 11 years old)					
	2023		2024		2025	
	Dose 1		Dose 1		Dose 1	
Indonesia	2,153,471		2,149,366		2,144,188	
Gardasil through government (Rp)	388,975,006,317		388,233,532,482		387,298,245,876	
GAVI/UNICEF Bivalent (Rp)	174,431,151,000		174,098,646,000		173,679,228,000	
GAVI/UNICEF Quadrivalent (Rp)	171,200,944,500		170,874,597,000		170,462,946,000	
GAVI/UNICEF Nonavalent (Rp)	248,725,900,500		248,251,773,000		247,653,714,000	

Policy Recommendation

- The changes in technical guidelines need to highlight the schedule and dose of HPV vaccination based on its effectiveness both in clinical and economical.
- The recommendations for Indonesian technical guidelines for the national HPV vaccination program include:
 1. Schedule (female adolescents in 5th or those aged 11 only) through BIAS (School based-Immunization programme)
 2. Evaluation of Whether Boosters Are Necessary
 3. Eligible Age for Immunization – case per case basis



Center for Health Economics Studies

