GRADE Table 3. What is the effectiveness of live recombinant JE vaccine in preventing JE disease in vaccinees living in JE-endemic areas?

Population : Immunocompetent individuals living in JE-endemic areas
Intervention: One dose of live recombinant JE vaccine
Comparison: Placebo/no vaccination/other JE vaccine
Outcome : JE disease (immunogenicity accepted)

What is the effectiveness of one dose of live recombinant JE vaccine in preventing JE disease in individuals living in JE-endemic areas?

			Rating	Adjustment to rating
Quality Assessment	No. of studies/starting rating		10 RCTs[1]	4
	Factors decreasing confidence	Limitation in study design	None serious	0
		Inconsistency	None serious[2]	0
		Indirectness	Serious[3]	-1
		Imprecision	None serious	0
		Publication bias	None serious	0
	Factors increasing confidence	Large effect	Applicable[4]	+1
		Dose-response	Not applicable	0
		Antagonistic bias and confounding	Not applicable	0
	Final numerical rating of quality of evidence			**4**
Summary of Findings	**Statement on quality of evidence**			**The evidence supports a high level of confidence that the true effect lies close to that of the estimate of effect on health outcome**
	Conclusion			**Live recombinant JE vaccines elicit seroprotective neutralizing antibody titres.** ***Based on a review of data on IMOJEV***

[1]Includes approximately 3,750 IMOJEV recipients in endemic and non-endemic settings. High seroprotection rates one month post-vaccination (no simultaneous vaccination) were reported. In the lowest age group (9-18 months), the seroprotection rate was estimated at 99.3% (95% CI: 96.2-100.0) (Feroldi 2014). Similar results were found in Korea (Kim 2013) among 12-24 month-olds (seroprotection 100%, 95% CI: NR) and in Thailand and the Philippines among 12-18 month-olds (seroprotection 95.0%, 95% CI: 93.3-96.3) (Feroldi 2012). Among 36-42 month-olds, 89.7% (95% CI: 75.8-97.1) were seroprotected one month post vaccination. Lower seroprotection rates were found with some serological assays (all genotype 3 challenge viruses) in a small study in India (e.g., against Nakayama strain and Indian strains) (NCT00441259 results). Seroprotection rates were also high in three trials among adults in non-endemic settings (e.g. 99.1% seroprotected (95% CI: 97.5-99.8) adults aged 18-65 in the US and Australia (Torresi 2010); see Table 10.

[2]Lower GMTs and rates of seroconversion were seen in one small study using Nakayama strain (NCT00441259). It was communicated that the virus stock was not good (G. Houillon, personal communication). Similar results were obtained in the same study in participants vaccinated with Nakayama-based inactivated mouse brain-derived vaccine, and no downgrade was applied.

[3]Clinical study outcomes are based on an accepted immunological correlate of protection (Hombach 2005).

[4]High seroprotection (>80%) rates post-vaccination, a defined threshold in the WHO Guidance for the Development of Evidence-Based Vaccine-Related Recommendations.

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