| **Evidence Table 4. Vaccinated versus unvaccinated: Children-adolescents** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Author- Year- Country** | **Study Design** | **McHarm Score** | **Population** | **Vaccine1** | **Timing1** | **Adverse Event1** | **OR, 95% CI, versus unvaccinated group** |
| Andrews N. et al.,2010 UK[246](#_ENREF_246) | Cohort | 1 | Sample size: 118200, Mean age: NR, Age range: 1 - 12 | Haemoph. Influenza. type b (Hib) protein conjugate, DTwP, NR, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Not reported | Dose1: NR | Any adverse event: 29.6% Event: Crying: 3.7%, Syscat: 8 Event: Diarrhea: 17.9%, Syscat: 7 Event: Feeding problem: 2.3%, Syscat: 7 Event: Fever: 6.8%, Syscat: 8 Event: Vaccine reaction: 0.3%, Syscat: 10 Event: Vomiting: 11.9%, Syscat: 8 Event: Convulsion/fit/seizure: 0.6%, Syscat: 17 Event: Apnea/collapse/cyanosis/pallor: 0.2%, Syscat: 17,8 |  |
| Armah G. E. et al.,2010 Ghana, Kenya, Mali[146](#_ENREF_146) | Controlled Clinical Trial | 5 | Sample size: 5560, Age range: 4 - 12, Conditions: HIV | Rotavirus, RotaTeq, Merck, 2×107infectious units per reassortant rotavirus, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 6 Weeks Dose2: 10 Weeks Dose3: 14 Weeks | Event: One or more serious adverse event: 1.5% Event: Death: 0%, Syscat: 8 Event: Pyrexia: <0.1%, Syscat: 8 Event: Sudden infant death syndrome: 0%, Syscat: 8 Event: Bronchiolitis: <0.1%, Syscat: 11 Event: Bronchopneumonia: 0.2%, Syscat: 11 Event: Gastroenteritis: 0.6%, Syscat: 11 Event: Otis media acute: 0%, Syscat: 11 Event: Pneumonia: 0.5%, Syscat: 11 Event: Respiratory tract infection: 0.1%, Syscat: 11 Event: Upper respiratory tract infection: <0.1%, Syscat: 11 Event: Other: 0.2% Event: Vomiting: <0.1%, Syscat: 7 | Bronchiolitis: OR 1 (0.063-16.002) Bronchopneumonia: OR 1.669 (0.398-6.989) Gastroenteritis: OR 1 (0.51-1.964) One or more serious adverse event: OR 0.933 (0.61-1.425) Other: OR 0.714 (0.226-2.253) Pneumonia: OR 1.302 (0.57-2.974) Respiratory tract infection: OR 0.6 (0.143-2.512) Upper respiratory tract infection: OR 0.5 (0.045-5.518) |
| Barbosa, C.M..et al. 2012[206](#_ENREF_206) Brazil | Controlled Clinical Trial | 4 | Sample size : 134, Mean age: 15, Age range: 5 - 18, Percent female: 78% | Varicella , Biken , Aventis Pasteur , >=1000 plaque forming units of virus/0.5 mL , Adjuvant: Not Reported , Preservative: Not reported , Delivery: Intramuscular | Dose1: 0 Days | Any adverse event : 42.9% , Syscat: 8, 7 , Sev: 1 Event: Herpes zoster (45 day f/u) : 0% , Syscat: 23 |  |
| Block S. L. et al.,2007 United States, Finland[147](#_ENREF_147) | Controlled Clinical Trial | 5 | Sample size: 1312, Age range: 6 - 13, Percent female: 47.8% | Rotavirus, RotaTeq, Merck, ©1.1X10 infectious U per dose. Pentavalent (G1–G4, and P[8]) humanbovine(WC3) reassortant rotavirus vaccine (PRV), Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Weeks Dose2: 4-10 Weeks Dose3: 8-20 Weeks | Any adverse event: 88.3% Event: Serious Adverse Event: .03% Event: Gastrointestinal system: 0.46%, Syscat: 7 Event: Abdominal pain: 0%, Syscat: 7 Event: Constipation: 0%, Syscat: 7 Event: Decreased appetite: 0.15%, Syscat: 14 Event: Dehydration: 0.15%, Syscat: 14 Event: Gastroenteritis: 0.15%, Syscat: 7 Event: Hematochezia: 0%, Syscat: 7 Event: General Body: 0.46%, Syscat: 8 Event: Fever, greater than or equal to 102.5 F: 0.31%, Syscat: 8 Event: SIDS: 0.15%, Syscat: 8 Event: Nervous system: 0.31%, Syscat: 17 Event: Meningitis: 0.15%, Syscat: 11 Event: Partial seizures: 0.15%, Syscat: 17 Event: Respiratory: 2%, Syscat: 22 Event: Bronchiolitis/bronchitis/bronchospasm: 1.23%, Syscat: 22 Event: Influenza: 0.15%, Syscat: 22 Event: Pertussis: 0%, Syscat: 22 AE: 3%, Syscat: 22 Event: Respiratory syncytial virus infection: 1%, Syscat: 22 Event: Upper respiratory tract infection: 0%, Syscat: 22 | Bronchiolitis/bronchitis/bronchospasm: OR 1.162 (0.419-3.224) Decreased appetite: OR 1.015 (0.063-16.269) Dehydration: OR 0.253 (0.028-2.267) Gastroenteritis: OR 0.507 (0.046-5.605) Gastrointestinal system: OR 0.301 (0.083-1.1) Influenza: OR 0.507 (0.046-5.605) Respiratory syncytial virus infection: OR 6.778 (0.03-1543.45) Respiratory: OR 1.905 (0.755-4.806) Serious Adverse Event: OR 0.783 (0.438-1.399) |
| Block S. L. et al.,2010 Asia, Europe, Latin America, North America[188](#_ENREF_188) | Controlled Clinical Trial | 7 | Sample size: 21480, Mean age: NR, Age range: 9 - 26, Percent female: 94% | Human papillomavirus (HPV), Gardasil/Silgard, Merck, HPV-6/11/16/18, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Not reported | Dose1: 1 Days Dose2: 2 Month Dose3: 6 Month | Event: Blood/lymphatic system: 0.03%, Syscat: 1, Sev: 3,4,5 Event: Cardiac: 0.03%, Syscat: 2, Sev: 3,4,5 Event: Gastrointestinal: 0.03%, Syscat: 7, Sev: 3,4,5 Event: Hepatobiliary: 0.02%, Syscat: 9, Sev: 3,4,5 Event: Infections/infestations: 0.2%, Syscat: 11, Sev: 3,4,5 Event: Injury/poisoning/procedural: 0.2%, Syscat: 12, Sev: 3,4,5 Event: Musculoskeletal/connective tissue: 0.01%, Syscat: 15, Sev: 3,4,5 Event: Neoplasms benign malignant, unspecified: 0.01%, Syscat: 16, Sev: 3,4,5 Event: Nervous system: 0.04%, Syscat: 17, Sev: 3,4,5 Event: Pregnancy/puerperium/perinatal: 0.3%, Syscat: 18, Sev: 3,4,5 Event: Psychiatric: 0.03%, Syscat: 19, Sev: 3,4,5 Event: Renal/urinary: 0.02%, Syscat: 20, Sev: 3,4,5 Event: Reproductive system/breast: 0.03%, Syscat: 21, Sev: 3,4,5 Event: Respiratory/thoracic/mediastinal: 0.04%, Syscat: 22, Sev: 3,4,5 Event: Vascular: 0.03%, Syscat: 26, Sev: 3,4,5 Event: Serious systemic AE: 0.9% Event: Death: 0.1%, Sev: 5 Event: Discontinuation due to AE: 0.2% | Cardiac: OR 2.472 (0.257-23.766) Death: OR 1.295 (0.502-3.341) Discontinuation due to AE: OR 1.099 (0.596-2.025) Gastrointestinal: OR 1.648 (0.302-8.998) Infections/infestations: OR 1.295 (0.662-2.532) Injury/poisoning/procedural: OR 0.669 (0.398-1.123) Musculoskeletal/connective tissue: OR 0.412 (0.037-4.543) Neoplasms benign malignant, unspecified: OR 0.824 (0.052-13.172) Nervous system: OR 0.824 (0.238-2.846) Pregnancy/puerperium/perinatal: OR 0.736 (0.463-1.17) Psychiatric: OR 1.236 (0.206-7.397) Renal/urinary: OR 0.824 (0.116-5.849) Reproductive system/breast: OR 0.824 (0.206-3.294) Respiratory/thoracic/mediastinal: OR 1.03 (0.276-3.836) Vascular: OR 164.803 (0-178246427.81) |
| Capeding M. R. Z. et al.,1996 Philippines[120](#_ENREF_120) | Controlled Clinical Trial | 3 | Sample size: 174, Mean age: 6.9, Age range: 5 - 8, Percent female: 37% | Haemoph. influenza. type b (Hib) protein conjugate, Routine Vaccines, Pedvax-Hib, Merck, PRP-OMP polysaccharide coupled to an outer membrane protein of Neisseria meningitidis group B. Lot 0957V., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Intramuscular | Dose1: 6-8 Weeks Dose2: 10-12 Weeks Dose3: 14-16 Weeks | Event: Serious adverse reactions: 0% Event: Fever greater than or equal to 38 C: 26%, Syscat: 8 | Fever greater than or equal to 38 C: OR 1.246 (0.467-3.323) |
| Chang C.-C. et al.,2009 Taiwan[148](#_ENREF_148) | Controlled Clinical Trial | NC | Sample size: 189, Age range: 6 - 12, Percent female: 47.6% | Rotavirus, RotaTeq, Merck, five human-bovine reassortant rotaviruses, each of which contained the WC3 bovine strain backbone with different human viral surface proteins G1, G2, G3, G4 and P[8}. An estimated final concentration of 6.5 × 107 IU to 1.2 × 108 IU was included in a 2 mL dose solution, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Weeks Dose2: 4-10 Weeks Dose3: 8-20 Weeks | Event: Fever, rectal temperature > 38.0°C: 53.7%, Syscat: 8 Event: Intussusception: 0%, Syscat: 7 Event: Diarrhea: 26.3%, Syscat: 7 Event: Vomiting: 8.4%, Syscat: 7 Event: Irritable crying: 1.1%, Syscat: 8 | Diarrhea: OR 2.015 (0.972-4.178) Fever, rectal temperature > 38.0°C: OR 0.875 (0.492-1.555) Irritable crying: OR 0.979 (0.06-15.882) Vomiting: OR 1.13 (0.392-3.252) |
| Christie C. D. C. et al.,2010 Jamaica[149](#_ENREF_149) | Controlled Clinical Trial | 4 | Sample size: 1804, Mean age: 7.7, Age range: 6 - 12, Percent female: 48.4% | Rotavirus, Routine Vaccines, RotaTeq, Merck, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Month Dose2: 2 Month Dose3: 2 Month | Any SAE: 4.8%, Sev: 4-5 Event: Death: 0.11%, Sev: 5 Event: Bronchiolitis: 1.3%, Syscat: 22, Sev: 1-3 Event: Urinary Tract Infection: 0.8%, Syscat: 20, Sev: 1-3 Event: Otitis media: 0.4%, Syscat: 4, Sev: 1-3 Event: Gastroenteritis: 0.3%, Syscat: 7, Sev: 1-3 Event: Bronchopneumonia: 0.6%, Syscat: 22, Sev: 1-3 Event: Viral infections: 0.4%, Syscat: 11, Sev: 1-3 Event: Convulsions: 0.2%, Syscat: 17, Sev: 1-3 Event: Anemia: 0.2%, Syscat: 1, Sev: 1-3 Event: Anal fissure: 0.2%, Syscat: 7, Sev: 1-3 Event: Asthma: 0.2%, Syscat: 22, Sev: 1-3 Event: Upper resp infection: 0.2%, Syscat: 22, Sev: 1-3 Event: Femur fracture: 0.1%, Syscat: 12, Sev: 1-3 Event: Intussusception: 0%, Syscat: 22, Sev: 1-3 | Bronchiolitis: OR 1.081 (0.475-2.463) Convulsions: OR 0.99 (0.139-7.044) Death: OR 0.329 (0.034-3.172) Femur fracture: OR 0.99 (0.062-15.854) Gastroenteritis: OR 0.99 (0.199-4.918) Otitis media: OR 1.322 (0.295-5.922) Urinary Tract Infection: OR 1.389 (0.439-4.393) Viral infections: OR 3.973 (0.443-35.62) |
| Clark, L.R. et al. 2013[200](#_ENREF_200) Europe, Latin America, North America | Controlled Clinical Trial | 3 | Sample size : 700, Mean age: 20, Age range: 16 - 24, Percent female: 100%, Percent pregant: Percent Pregnant: 25% | Human papillomavirus (HPV) , Not reported. Quadrivalent vaccine targeting HPV-6/11 , Gardasil, Merck Sharp & Dohme, Corp. , Quadrivalent vaccine targeting HPV-6/11/16/18 , Adjuvant: Not Reported , Preservative: Not reported , Delivery: Intramuscular | Dose1: Day 1 Days Dose2: Month 2 Month Dose3: Month 6 Month | Any SAE : 1.7% Event: One or more injection-site AE : 49% , Syscat: 8 Event: One or more systemic AE : 35.8% Event: Vaccine-related systemic AE : 23.8% Event: Serious vaccine-related AE : 0% Event: Abnormal live birth : 3% , Syscat: 18 Event: Congenital or other anomaly - live birth : 1% , Syscat: 18 Event: Other medical condition - live birth : 2% , Syscat: 18 Event: Number of fetal losses : 24.2% , Syscat: 18 Event: Spontaneous abortion : 20% , Syscat: 18 Event: Late fetal death : 0% , Syscat: 18 Event: Elective abortion : 17.4% , Syscat: 18 | Abnormal live birth: OR 0.766 (0.182-3.23) Congenital or other anomaly - live birth: OR 1.281 (0.08-20.564) Number of fetal losses: OR 7.876 (2.694-23.025)\*\* One or more injection-site AE: OR 1.384 (1.024-1.871)\*\* One or more systemic AE: OR 1.362 (0.988-1.876) Spontaneous abortion: OR 0.798 (0.44-1.447) Vaccine-related systemic AE: OR 1.414 (0.977-2.046) |
| De Carvalho N. et al.,2010 Brazil[194](#_ENREF_194) | NA | 3 | Sample size: 433, Mean age: 26.5, Percent female: 100%, Percent pregnant: Percent Pregnant: 9.5% | Human papillomavirus (HPV), Cervarix, GlaxoSmithKline, 20 µg of HPV-16 L1 virus-like particle and 20 µg of HPV-18 L1 virus-like particle. Each type of virus-like particle was produced on Spodoptera frugiperda Sf-9 and Trichoplusia ni Hi-5 cell substrate with AS04 adjuvant containing 500 µg aluminum hydroxide and 50 µg 3-deacylated monophosphoryl lipid A (MPL, Corixa, Montana, USA) provided in a monodose vial., Adjuvant: ASO 4-Aluminum, Preservative: Not reported, Delivery: Intramuscular | Dose1: 0 Month Dose2: 1 Month Dose3: 6 Month | Any SAE: 1.8% Event: Medically significant adverse event (any): 8.1% Event: New onset chronic disease: 0% Event: New onset autoimmune disease: 0% | Medically significant adverse event (any): OR 1.344 (0.641-2.816) |
| Dennehy P. H. et al.,2005 United States, Canada[150](#_ENREF_150) | Controlled Clinical Trial | 6 | Sample size: 529, Mean age: 8.7, Age range: 5 - 15, Percent female: 51% | Rotavirus, Routine Vaccines, RIX4414, GlaxoSmithKline, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Month Dose2: 2 Month | Any adverse event: 4.72% Event: Fever: 0%, Syscat: 8 Event: Hypovolemia/dehydration: 0.47%, Syscat: 14, Sev: Serious Event: Meningitis: 0%, Syscat: 11, Sev: Serious Event: Petit mal seizures: 0%, Syscat: 17, Sev: Serious Event: Leukocytosis: 0%, Syscat: 1, Sev: Serious Event: Pyelonephritis: 0.94%, Syscat: 20, Sev: Serious Event: Kidney cyst: 0.47%, Syscat: 20, Sev: Serious Event: Bronchiolitis: 1.42%, Syscat: 22, Sev: Serious Event: Wheezing: 0%, Syscat: 22, Sev: Serious Event: Pneumonia: 0%, Syscat: 22, Sev: Serious Event: Asthma: 0.47%, Syscat: 22, Sev: Serious Event: Other respiratory illness: 0%, Syscat: 22, Sev: Serious Event: Gastroenteritis: 0.94%, Syscat: 7, Sev: Serious Event: GERD: 0%, Syscat: 7, Sev: Serious Event: Mesenteric adenitis: 0%, Syscat: 7, Sev: Serious | Bronchiolitis: OR 0.502 (0.1-2.532) Hypovolemia/dehydration: OR 0.507 (0.031-8.187) |
| Englund J. A. et al.2010 US[105](#_ENREF_105) | Controlled Clinical Trial | 6 | Sample size: 1375, Mean age: 9.1, Age range: 2 - 7 | Influenza (inactivated), Fluzone, Sanofi, 0.25 mL dose contained 7.5 g hemagglutinin (HA) of A/New Caledonia/20/99(H1N1); A/New York/55/2004 (H3N2), and B/Jiangsu/10/2003, Adjuvant: Not Reported, Preservative: Preservative Free, Delivery: Intramuscular | Dose1: 0 Days Dose2: 1 Month | Any adverse event: 93.4%, Sev: 1-3 Any SAE: 1.9%, Sev: 2-3 Event: Fever >=38C (Dose 1): 11.2%, Syscat: 8, Sev: 1-3 Event: Any irritability (Dose 1): 80%, Syscat: 8, Sev: 1-3 Event: Decreased appetite (Dose 1): 39%, Syscat: 8, Sev: 1-3 Event: Any emesis (Dose 1): 15%, Syscat: 8, Sev: 1-3 Event: Abnormal crying (Dose 1): 62%, Syscat: 8, Sev: 1-3 Event: Any drowsiness (Dose 1): 67%, Syscat: 8, Sev: 1-3 Event: Fever >=38C (Dose 2): 2.3%, Syscat: 8, Sev: 1-3 Event: Any irritability (Dose 2): 55%, Syscat: 8, Sev: 1-3 Event: Decreased appetite (Dose 2): 22%, Syscat: 8, Sev: 1-3 Event: Any emesis (Dose 2): 11%, Syscat: 8, Sev: 1-3 Event: Abnormal crying (Dose 2): 41%, Syscat: 8, Sev: 1-3 Event: Any drowsiness (Dose 2): 41%, Syscat: 8, Sev: 1-3 Event: Death: 0.1%, Sev: 5 | Abnormal crying (Dose 1): OR 1 (0.794-1.26) Abnormal crying (Dose 2): OR 1.042 (0.83-1.31) Any drowsiness (Dose 1): OR 1.093 (0.863-1.384) Any emesis (Dose 1): OR 1.294 (0.926-1.808) Any emesis (Dose 2): OR 0.193 (0.146-0.256)\*\* Any irritability (Dose 1): OR 1.128 (0.858-1.483) Any irritability (Dose 2): OR 0.922 (0.736-1.156) Decreased appetite (Dose 1): OR 0.883 (0.703-1.109) Decreased appetite (Dose 2): OR 0.944 (0.723-1.234) Fever >=38C (Dose 1): OR 0.952 (0.67-1.352) Fever >=38C (Dose 2): OR 0.596 (0.313-1.135) |
| Giuliano A. R. et al.,2011 18 countries[193](#_ENREF_193) | Controlled Clinical Trial | 4 | Sample size: 3895, Mean age: 20.5, Age range: 15 - 27, Percent female: 0% | Human papillomavirus (HPV), Gardasil or Silgard, Merck, Quadrivalent HPV types 6, 11, 16, 18. Low-dose contained 20 ug type 6, 40 ug type 11, 40 ug type 16, 20 ug type 18, with 225 ug aluminum adjuvant. (from reference for Villa, 2005, which is study ID 20223), Adjuvant: Aluminum, Preservative: Not reported, Delivery: Intramuscular | Dose1: 1 Days Dose2: 2 Month Dose3: 6 Month | Any adverse event: 69.2% Event: Serious vaccine-related events (entire study period): 0% Event: Death (entire study period): 0.2%, Sev: 5 Event: Serious vaccine-related events (first 15 days): 0% Event: Death (first 15 days): 0% | Death (entire study period): OR 0.3 (0.082-1.091) |
| Gotoh K. et al.,2011 Japan[110](#_ENREF_110) | Cohort | 1 | Sample size: 101, Mean age: 9.8, Percent female: 51.5%, Conditions: Transplant | Influenza (inactivated), NR, 15 lg hemagglutinin per 0.5 mLof each of the following influenza strains: A/New Caledonia/20/99 (H1N1), A/Hiroshima/52/2005 (H3N2), and B/Malaysia/2506/2004 in the 2006–2007 season; A/SolomonIslands/3/2006 (H1N1), A/Hiroshima/52/2005 (H3N2), and B/Malaysia/2506/2004 in the 2007–2008 season; and A/Brisbane/59/2007 (H1N1), A/Uruguay/716/2007 (H3N2),and B/Florida/4/2006 in the 2008–2009 season. These inactivated vaccines did not contain adjuvant., Adjuvant: Adjuvant Free, Preservative: Not reported, Delivery: Not reported | Dose1: 0 Days | Any SAE: 0% Event: Acute allograft rejection: 0%, Syscat: 10 Event: Acute febrile illness: 21.2%, Syscat: 8 Event: Flu virus infection: 6.1%, Syscat: 10 | Acute febrile illness: OR 0.421 (0.16-1.11) Flu virus infection: OR 0.819 (0.143-4.703) |
| Goveia M. G. et al.,2007 11 countries[151](#_ENREF_151) | Controlled Clinical Trial | 8 | Sample size: 2074, Mean age: NR, Age range: 6 - 12, Conditions: Premature babies | Rotavirus, RotaTeq, Merck, vaccine contained 5live human-bovine reassortant rotaviruses, each consisting of the WC3 bovine strain expressing a viral surface protein corresponding to human rotavirus serotypes G1, G2, G3, G4,or P1A, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Days Dose2: 4-10 Weeks Dose3: 4-10 Weeks | Any SAE: 5.5% Event: Bronchiolitis (all subjects, most frequent AE): 1.4%, Syscat: 22, Sev: 3-4 Event: Intussusception (all subjects, confirmed): 0%, Syscat: 7, Sev: 3-4 Event: hematochezia (all subjects): 0%, Syscat: 1, Sev: 3-4 Event: Deaths (total, all subjects): 0.2%, Sev: 5 Event: Death due to SIDS (all subjects): 0.1%, Sev: 5 Event: At least one SAE (extreme preemie): 8.1%, Sev: 3-4 Event: Bronchiolitis (extreme preemie): 2.7%, Syscat: 22, Sev: 3-4 Event: Pneumonia (extreme preemie): 2.7%, Syscat: 22, Sev: 3-4 Event: Apneic attack (extreme preemie): 1.4%, Syscat: 22, Sev: 3-4 | Apneic attack (extreme preemie): OR 1.056 (0.066-16.901) At least one SAE (extreme preemie): OR 0.702 (0.249-1.979) Bronchiolitis (all subjects, most frequent AE): OR 0.7 (0.354-1.383) Bronchiolitis (extreme preemie): OR 1.056 (0.148-7.509) Deaths (total, all subjects): OR 1.056 (0.148-7.509) Death due to SIDS (all subjects): OR 1.056 (0.066-16.901) Pneumonia (extreme preemie): OR 2.113 (0.191-23.345) |
| Grant L. R et al.,2012 United States[152](#_ENREF_152) | Controlled Clinical Trial | 5 | Sample size: 1003, Age range: 6 - 12 | Rotavirus, RotaTeq, Merck, PRV is a live, pentavalent, vaccine that contains humanbovine (WC3 strain) reassortant rotaviruses expressing the G1, G2, G3, G4, and P[8] human rotavirus antigens, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Weeks Dose2: 4-10 Weeks Dose3: 8-20 Weeks | Event: Vomiting, vaccine related: 11.4%, Syscat: 7 Event: Diarrhea, vaccine related: 31.8%, Syscat: 7 Event: Fever, vaccine related: 33.2%, Syscat: 8 Event: Intussusception: 0%, Syscat: 7 Event: Deaths, (Were outside of 42 day safety window and not associated with vaccine): 0.39% Event: Vomiting, all events: 17.5%, Syscat: 7 Event: Diarrhea, all events: 43.0%, Syscat: 7 Event: Fever, all events: 54.2%, Syscat: 8 | Deaths, (Were outside of 42 day safety window and not associated with vaccine): OR 1.945 (0.176-21.517) Diarrhea, all events: OR 1.208 (0.939-1.555) Diarrhea, vaccine related: OR 1.113 (0.851-1.456) Fever, all events: OR 0.943 (0.736-1.21) Fever, vaccine related: OR 1.047 (0.804-1.364) Vomiting, all events: OR 1.097 (0.788-1.527) Vomiting, vaccine related: OR 1.384 (0.911-2.102) |
| Greenhawt, M.J. et al. 2012[109](#_ENREF_109) US | Controlled Clinical Trial | 1 | Sample size : 143, Mean age: NR, Age range: 14 - 17, Percent female: 36.7%, Conditions: Egg allergy | Influenza (inactived) , Fluzone , Sanofi , Formulation had ovo-albumin content of 0.1 microgram per 0.5 ml dose , Adjuvant: Not Reported , Preservative: Not reported , Delivery: Not reported | Dose1: 0 Days Dose2: 30 mins NR | Syscat: Not clear Event: Localized urticaria : 35.7% , Syscat: 23 Event: Systemic urticaria : 35.7% , Syscat: 23 Event: Oro-facial angioedema : 42.8% , Syscat: 23 Event: Throat itching : 21.4% , Syscat: 7 Event: Throat swelling : 14.3% , Syscat: 7 Event: Stridor : 7.1% , Syscat: 22 Event: Cough : 21.4% , Syscat: 22 Event: Dyspnea : 14.3% , Syscat: 22 Event: Wheezing : 14.3% , Syscat: 22 Event: Hypotension : 7.1% , Syscat: 26 Event: Vomiting : 64.3% , Syscat: 7 Event: Abdominal pain : 21.4% , Syscat: 7 | Dyspnea: OR 0.117 (0.02-0.693)\*\* Hypotension: OR 0.577 (0.047-7.119) Localized urticaria: OR 1.019 (0.232-4.466) Oro-facial angioedema: OR 1.8 (0.407-7.957) Stridor: OR 0.577 (0.047-7.119) Systemic urticaria: OR 0.494 (0.116-2.105) Throat itching: OR 1.273 (0.214-7.582) Throat swelling: OR 2.667 (0.216-32.961) Wheezing: OR 2.667 (0.216-32.961) |
| Halasa N. et al.,2011 US[106](#_ENREF_106) | Controlled Clinical Trial | 2 | Sample size: 20, Mean age: 12.2, Age range: 5 - 17, Percent female: 45%, Conditions: Cancer | Influenza (live), MedImmune, 2005-2005 prep: 106.5-7.5 TCID50per dose for each of the following strains: A/New Caledonia/20/99 (A/NC/20/99; A/H1N1), A/Wyoming/3/2003(A/Fujian/411/02-like, A/Fuj/411/02; A/H3N2), and B/Jilin/20/2003(B/Shanghai/361/2002-like, Yam88 lineage; B/Yam/166/98; B2005-2006: contained an identical A/H1N1 strain, but the A/H3N2 isolate was updated to A/California/7/2004(A/Cal/7/04) and the B strain was replaced with B/Jiangsu/10/2003(B/Shanghai/361/2002-like, Yam88 lineage; B/Yam/166/98; B, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Intranasal | Dose1: 0 Days | Any adverse event: 88.9% Any SAE: 0% Event: Fever >=100C (0-42 days): 22.2%, Syscat: 8, Sev: 1-3 Event: Runny nose: 77.8%, Syscat: 22, Sev: 1-3 Event: Sore throat: 22.2%, Syscat: 22, Sev: 1-3 Event: Cough: 11.1%, Syscat: 22, Sev: 1-3 Event: Vomiting: 44.4%, Syscat: 8, Sev: 1-3 Event: Headache: 44.4%, Syscat: 8, Sev: 1-3 Event: Muscle ache: 0%, Syscat: 15, Sev: 1-3 Event: Chills: 11.1%, Syscat: 8, Sev: 1-3 Event: Tiredness: 44.4%, Syscat: 8, Sev: 1-3 Event: Irritability: 0%, Syscat: 8, Sev: 1-3 Event: Rash: 0%, Syscat: 10, Sev: 1-3 Event: Febrile neutropenia: 0%, Syscat: 1, Sev: 1-3 | Chills: OR 0.259 (0.022-3.063) Cough: OR 0.259 (0.022-3.063) Fever >=100C (0-42 days): OR 0.375 (0.051-2.772) Headache: OR 0.286 (0.045-1.821) Runny nose: OR 1.556 (0.244-9.913) Sore throat: OR 0.25 (0.034-1.819) Tiredness: OR 0.444 (0.074-2.66) Vomiting: OR 1.556 (0.244-9.913) |
| Huu, T.N. et al. 2013[118](#_ENREF_118) Vietnam | Controlled Clinical Trial | 7 | Sample size : 300, Mean age: 8.7, Age range: 6 - 12, Percent female: 43.3% | Haemoph. Influen. type b (Hib) protein conjugate, Routine Vaccines , Experimental: SynflorixRoutine: Infarix hexa , GlaxoSmithKline , PHiD-CV (Synflorix™, GlaxoSmithKline, Rixensart,Belgium) contained 1µg of each capsular polysaccharideof pneumococcal serotypes 1, 5, 6B, 7F, 9V, 14, and 23Fand 3µg of serotype 4 capsular polysaccharide conju-gated individually to NTHi protein D; 3µg of serotype18C capsular polysaccharide conjugated to tetanus tox-oid; and 3µg of serotype 19F capsular polysaccharideconjugated to diphtheria toxoid. Routine: DTPa-HBV-IPV/Hib vaccine (Infanrix hexa™,GlaxoSmithKline, Rixensart, Belgium) contained=30 IUof diphtheria toxoid,=40 IU of tetanus toxoid, 25µgofpertussis t , Adjuvant: Not Reported , Preservative: Not reported , Delivery: Intramuscular | Dose1: 0 Days Dose2: 28-42 Days Dose3: 28-42 Days | Event: SAEs (total) : 4.5% , Syscat: See below , Sev: 2-3 Event: SAE- convulsion : 1.0% , Syscat: 17 , Sev: 2-3 Event: SAE- diarrhea : 1.0% , Syscat: 7 , Sev: 2-3 Event: SAE-bronchiolitis : 1.0% , Syscat: 22 , Sev: 2-3 Event: SAE- autoimmune thrombocytopenia : 0.5% , Syscat: 1 , Sev: 2-3 Event: SAE- upper respiratory tract infection : 0.5% , Syscat: 22 , Sev: 2-3 Event: SAE- gastro-oesophageal reflux disease : 0.5% , Syscat: 7 , Sev: 2-3 Event: SAE - hydronephrosis : 0.5% , Syscat: 20 , Sev: 2-3 Event: SAE- fungal infection : 0.5% , Syscat: 11 , Sev: 2-3 Event: SAE - Kawasaki ’ s disease : 0.5% , Syscat: 1 , Sev: 2-3 Event: SAE - coagulopathy : 0.5% , Syscat: 1 , Sev: 2-3 | SAE- convulsion: OR 0.332 (0.055-2.017) SAE- diarrhea: OR 0.503 (0.07-3.621) SAE- fungal infection: OR 0.25 (0.022-2.791) SAE- gastro-oesophageal reflux disease: OR 0.505 (0.031-8.159) SAEs (total): OR 0.75 (0.259-2.169) |
| Kang, S. et al. 2008[199](#_ENREF_199) Korea | Controlled Clinical Trial | 4 | Sample size : 176, Mean age: 16.6, Age range: 9 - 23, Percent female: 100% | Human papillomavirus (HPV) , Gardasil , Merck , Mixture of four recombinant HPV type-specific VLPsconsisting of the L1 major capsid proteins of HPV 6,11, 16, and 18 synthesized inSaccharomyces cerevisiae.The four VLP types were purified and adsorbedonto amorphous aluminum hydroxyphosphate sulfateadjuvant. , Adjuvant: Aluminum , Preservative: Not reported , Delivery: Intramuscular | Dose1: 0 Days Dose2: 1 Month Dose3: 6 Month | Any adverse event : 77.8% , Syscat: 8, 23 , Sev: 1 Any SAE : 2.5% , Syscat: 8 , Sev: 3 Event: Vaccine related AE : 72.6% , Syscat: 8, 23 , Sev: 1 Event: SAE - death : 0.8% , Sev: 4 Event: Vaccine related SAE : 0% Event: Discontinued due to AE : 8.23% , Syscat: 12 , Sev: 4 Event: Discontinued due to vaccine related AE : 0% Event: Discontinued due to SAE : 0% Event: Discontinued due to vaccine related SAE : 0% | Vaccine related AE: OR 154.063 (20.474-1159.27)\*\* |
| Kawamura N. et al.,2011 Japan[153](#_ENREF_153) | Controlled Clinical Trial | 4 | Sample size: 764, Mean age: 7.7, Age range: 6 - 14, Percent female: 50% | Rotavirus, Rotarix, GlaxoSmithKline, Each dose (1ml) of the lyophilized RIX4414 vaccine (Rotarix TM) contained at least 10-6.0 median Cell Culture Infective Dose (CCID50) of live attenuated human rotavirus RIX4414 strain, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Month Dose2: 1 Month | Any adverse event: 75.8% Any SAE: 14.2% Event: # of patients with any AE (31-day post vacc): 54.9% Event: Eczema: 14.2%, Syscat: 23 Event: Upper respiratory tract infection: 9.8%, Syscat: 22 Event: Cough/runny nose: 35%, Syscat: 22, Sev: 1 Event: Diarrhea: 8%, Syscat: 7 Event: Fever: 11%, Syscat: 8 Event: Irritability: 53%, Syscat: 8 Event: Loss of appetite: 16%, Syscat: 8 Event: Vomiting: 15%, Syscat: 7 | # of patients with any AE (31-day post vacc): OR 0.96 (0.71-1.299) Cough/runny nose: OR 1.045 (0.762-1.434) Diarrhea: OR 1.652 (0.866-3.153) Eczema: OR 1.299 (0.82-2.057) Fever: OR 1.421 (0.837-2.414) Irritability: OR 1.128 (0.835-1.523) Loss of appetite: OR 1.397 (0.895-2.179) Upper respiratory tract infection: OR 1.011 (0.61-1.678) Vomiting: OR 1.084 (0.706-1.664) |
| Kerdpanich A. et al.,2010 Thailand[154](#_ENREF_154) | Controlled Clinical Trial | 9 | Sample size: 400, Age range: 6 - 12 | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, RIX4414 vaccine contained at least 106.0 cell culture infective dose 50 (CCID50) of the RIX4414 strain. CaCO3 buffer based reconstitution., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Month Dose2: 2 Month | Any adverse event: <4% Any SAE: 2.3%, Syscat: 7,8,20,26, Sev: 3-4 Event: SAE - Gastroenteritis: 0.57%, Syscat: 7, Sev: 3-4 Event: SAE - UTI: 0.57%, Syscat: 20, Sev: 3-4 Event: SAE- Neonatal hypertension: 0.57%, Syscat: 26, Sev: 3-4 Event: SAE - Escherischia UTI: 0.57%, Syscat: 20, Sev: 3-4 Event: Loss of appetite: 23%, Syscat: 8, Sev: 3-4 Event: Fatality: 0%, Sev: 5 | Loss of appetite: OR 0.487 (0.205-1.16) SAE - UTI: OR 0.145 (0.009-2.384) |
| Khalil, M. et al. 2012[212](#_ENREF_212) Saudi Arabia | Controlled Clinical Trial | 4 | Sample size : 238, Mean age: 6.3, Age range: 5 - 8, Percent female: 55.0% | Meningococcal conjugate , Menactra, PA , Sanofi , Quadrivalent (A, C, Y, and W-135) meningococcal diph-theria toxoid-conjugate vaccine , Adjuvant: Not Reported , Preservative: Not reported , Delivery: Intramuscular | Dose1: 0 Days | Event: Grade 2-3 Fever : 5.2% , Syscat: 8 , Sev: 2-3 Event: Grade 2-3 Headache : 1.3% , Syscat: 8 , Sev: 2-3 Event: Grade 2-3 Malaise : 4.5% , Syscat: 8 , Sev: 2-3 Event: Grade 2-3 Myalgia : 2.6% , Syscat: 8 , Sev: 2-3 Event: SAE - Upper respiratory infection (unsolicited AE) : 0.6% , Syscat: 22 , Sev: 3 Event: SAE - Headache (unsolicitied AE) : 0.6% , Syscat: 8 , Sev: 3 | Grade 2-3 Fever: OR 1.508 (0.389-5.842) Grade 2-3 Headache: OR 1.113 (0.099-12.453) Grade 2-3 Malaise: OR 4.027 (0.487-33.3) Grade 2-3 Myalgia: OR 2.255 (0.248-20.507) SAE - Headache (unsolicitied AE): OR 0.553 (0.034-8.949) |
| Khatun, S. et al. 2012[198](#_ENREF_198) Bangladesh | Controlled Clinical Trial | 4 | Sample size : 67, Mean age: NR, Age range: 9 - 13, Percent female: 100% | Human papillomavirus (HPV) , Cervarix , GlaxoSmithKline , In this preparation, the L1protein of each HPV type is expressed via a recombinantbaculo virus vector. The VLPs of each HPV type are pro-duced separately and consist of purified L1 VLPs ofHPV-16/18 at 20/20-g per dose formulated on AS04 adju-vant comprising 500 gm of aluminum hydroxide and 50 gmof 3-deacylated monopods phage lipid A. , Adjuvant: ASO 4 , Preservative: Not reported , Delivery: Not reported | Dose1: 0 Days Dose2: 1 Dose3: 6 | Any SAE : 0% Event: Any AE after 1st dose : 80% , Syscat: 8, 7 Event: Any AE after 2nd dose : 88% , Syscat: 8, 7 Event: Any AE after 3rd dose : 90% , Syscat: 8, 7 Event: SAE : 0% | Any AE after 1st dose: OR 16 (4.043-63.326)\*\* Any AE after 2nd dose: OR 53.778 (9.89-292.432)\*\* Any AE after 3rd dose: OR 81 (12.938-507.104)\*\* |
| Kim D. S. et al.,2008 Korea[155](#_ENREF_155) | Controlled Clinical Trial | 3 | Sample size: 178, Age range: 6 - 12, Percent female: 42.7% | Rotavirus, RotaTeq, Merck, PRV contained 5 WC3 reassortant rotaviruses, each consisting of the WC3 bovine strain with viral surface proteins corresponding to human rotavirus serotypes G1, G2, G3, G4, and P1A\_8 suspended in a liquid sodium citrate and phosphate buffer at an aggregate viral titer of approximately 6.9 \_ 107 to 8.6 \_ 107 infectious units per dose., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Weeks Dose2: 4-10 Weeks Dose3: 8-20 Weeks | Event: One or more serious adverse events: 5.3% Event: Intussusception: 0%, Syscat: 7 Event: Vaccine-related serious adverse event: 0.87% | One or more serious adverse events: OR 0.44 (0.141-1.373) |
| Kim J. S. et al.,2012 South Korea[156](#_ENREF_156) | Controlled Clinical Trial | 5 | Sample size: 684, Mean age: 8.8, Percent female: 45.3% | Rotavirus, Routine Vaccines, RIX4414, NR, >=10\*6.0 median Cell Culture Infective Dose per ml, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 8 Weeks Dose2: 16 Weeks | Any adverse event: 72.6% Any SAE: 3.3% Event: Patients with unsolicited AE over 31d: 29.1% Event: nasopharygitis (unsolicited/31d): 5.7%, Syscat: 22 Event: URI (unsolicited/31d): 3.9%, Syscat: 22 Event: Bronchiolitis (unsolicited/31d): 3.5%, Syscat: 22 Event: gastroenteritis (unsolicited/31d): 8.3%, Syscat: 7 Event: Bronchiolitis (total study period): 1.2%, Syscat: 22 Event: Gastroenteritis (total study period): 1.0%, Syscat: 7 | Bronchiolitis (total study period): OR 0.409 (0.123-1.356) Bronchiolitis (unsolicited/31d): OR 0.77 (0.327-1.811) Gastroenteritis (total study period): OR 0.427 (0.113-1.61) Patients with unsolicited AE over 31d: OR 0.815 (0.565-1.176) URI (unsolicited/31d): OR 0.861 (0.371-2) gastroenteritis (unsolicited/31d): OR 0.843 (0.467-1.521) nasopharygitis (unsolicited/31d): OR 0.563 (0.301-1.051) |
| Kim, S. C. et al.,2011 Korea[191](#_ENREF_191) | Controlled Clinical Trial | 8 | Sample size: 208, Mean age: 22, Age range: 15 - 25, Percent female: 100% | Human papillomavirus (HPV), Cervarix, GlaxoSmithKline, HPV-16/18 contained 20 mcg each of HPV-16 and -18 L1 (structural protein of HPV) virus like particle, adjuvanted with the proprietary immunostimulant ASO4 adjuvant system (comprising 3-O desacyl-4(1)-MPL [50 mcg] adsorbed on aluminium hydroxide [AI(OH)3, 500 mcg]), Adjuvant: ASO 4-Aluminum, Preservative: Not reported, Delivery: Intramuscular | Dose1: 0 Month Dose2: 1 Month Dose3: 6 Month | Event: Unsolicited - Infections and infestations, Syscat: 11 Event: Unsolicited - Breast and reproductive system, Syscat: 21 Event: Unsolicited - any AE (Grade 3), Sev: 3 Event: Medical significant adverse condition Event: New onset chronic diseases Event: Solicited - Arthralgias (Grade 3): 10.7%, Syscat: 15, Sev: 3 Event: Solicited - Fatigue (Grade 3): 49.0%, Syscat: 8, Sev: 3 Event: Solicited - Fevers (Grade 3): 1.6%, Syscat: 8, Sev: 3 Event: Solicited - GI symptoms (Grade 3): 17.5%, Syscat: 7, Sev: 3 Event: Solicited - Headache (Grade 3): 29.6%, Syscat: 17, Sev: 3 Event: Solicited - Myalgia (Grade 3): 44.1%, Syscat: 15, Sev: 3 Event: Solicited - Rash (Grade 3): 9.6%, Syscat: 23, Sev: 3 Event: Solicited - Urticaria (Grade 3): 3.0%, Syscat: 23, Sev: 3 | Medical significant adverse condition: OR 1.892 (0.846-4.233) New onset chronic diseases: OR 0.374 (0.11-1.272) Solicited - Arthralgias (Grade 3): OR 3.12 (1.423-6.845)\*\* Solicited - Fevers (Grade 3): OR 1.698 (0.343-8.402) Solicited - GI symptoms (Grade 3): OR 3.342 (1.759-6.352)\*\* Solicited - Headache (Grade 3): OR 5.063 (2.405-10.658)\*\* Solicited - Rash (Grade 3): OR 3.024 (1.328-6.886)\*\* Solicited - Urticaria (Grade 3): OR 2.167 (0.596-7.877) Unsolicited - Breast and reproductive system: OR 2.731 (0.767-9.718) Unsolicited - Infections and infestations: OR 2.317 (0.96-5.589) Unsolicited - any AE (Grade 3): OR 0.06 (0.02-0.183)\*\* |
| Klein, N.P. et al. 2012[213](#_ENREF_213) U.S., Colombia, Argentina | Controlled Clinical Trial | 2 | Sample size : 1508, Mean age: 65.5, Age range: 55 - 89, Percent female: 47.8% | Meningococcal conjugate, Routine Vaccines , NR (likely Novartis, the trial sponsor) , Lyphilized Men A component with liquid MenCWY component, Each dose contained 10micrograms of MenA oligosacchirides and 5microgram each of MenC, MenW-135, and MenY conjugated to CRM197 (~50microgram) , Adjuvant: Not Reported , Preservative: Not reported , Delivery: Intramuscular | Dose1: 0 Month Dose2: 2 Month Dose3: 2 Month | Event: Urticaria (6m) : 1% , Syscat: 23 , Sev: 2-3 Event: Urticaria (12m) : <1% , Syscat: 23 , Sev: 2-3 Event: Severe change in eating habits (6m) : <1% , Syscat: 8 , Sev: 2-3 Event: Severe change in eating habits (12m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe sleepiness (6m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe sleepiness (12m) : <1% , Syscat: 8 , Sev: 2-3 Event: Severe persistent crying (6m) : <1% , Syscat: 8 , Sev: 2-3 Event: Severe persistent crying (12m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe irritability (6m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe irritability (12m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe vomiting (6m) : 0% , Syscat: 7 , Sev: 2-3 Event: Severe vomiting (12m) : <1% , Syscat: 7 , Sev: 2-3 Event: Severe diarrhea (6m) : <1% , Syscat: 7 , Sev: 2-3 Event: Severe diarrhea (12m) : 1% , Syscat: 7 , Sev: 2-3 Event: SAE- Death : 0% , Syscat: 0 , Sev: 2-3 Event: SAE- Kawasaki disease (after 3rd dose of MenC) : <1% , Syscat: 1 , Sev: 2-3 Event: SAE- partial complex seizures (after 2nd dose of Men C) : <1% , Syscat: 17 , Sev: 2-3 Event: SAE - Febrile convulsions (after 3rd dose of MenC) : <1% , Syscat: 17 , Sev: 2-3 | Severe change in eating habits (12m): OR 3.574 (0.439-29.129) Severe change in eating habits (6m): OR 0.507 (0.102-2.519) Severe irritability (12m): OR 0.675 (0.233-1.955) Severe irritability (6m): OR 3.06 (0.367-25.49) Severe persistent crying (12m): OR 0.761 (0.214-2.707) Severe sleepiness (12m): OR 0.507 (0.102-2.519) Severe sleepiness (6m): OR 3.06 (0.367-25.49) Urticaria (12m): OR 0.507 (0.102-2.519) Urticaria (6m): OR 0.888 (0.259-3.048) |
| Laserson K. F. et al.,2012 Kenya[157](#_ENREF_157) | Controlled Clinical Trial | 7 | Sample size: 297, Age range: 0 - 12, Percent female: 51.8%, Conditions: HIV | Rotavirus, RotaTeq, Merck, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 6 Weeks Dose2: 10 Weeks Dose3: 14 Weeks | Any adverse event: 93.2% Event: One of more serious adverse events: 9.5%, Sev: Serious Event: Infections: 9.5%, Syscat: 11, Sev: Serious Event: Respiratory, thoracic and mediastinal disorders: 0%, Syscat: 22, Sev: Serious Event: General disorders and administration site conditions: 0%, Syscat: 8, Sev: Serious Event: Death: 0%, Syscat: 8 Event: Infections: 71.4%, Syscat: 11, Sev: Serious Event: Respiratory, thoracic and mediastinal disorders: 69.4%, Syscat: 22, Sev: Serious Event: General disorders and administration site conditions: 66%, Syscat: 8, Sev: Serious Event: Gastrointestinal disorders: 60.5%, Syscat: 7, Sev: Serious Event: Nervous system disorders: 0%, Syscat: 17, Sev: Serious Event: Reproductive system and breast disorders: 0.7%, Syscat: 21, Sev: Serious | Gastrointestinal disorders: OR 1.534 (0.968-2.431) General disorders and administration site conditions: OR 0.97 (0.599-1.57) Infections: OR 0.684 (0.332-1.412) Infections: OR 0.524 (0.301-0.912)\*\* One of more serious adverse events: OR 0.581 (0.286-1.179) Respiratory, thoracic and mediastinal disorders: OR 337.733 (45.817-2489.554)\*\* |
| Lau, Y.L. et al. 2013[179](#_ENREF_179) China | Controlled Clinical Trial | 1 | Sample size : 3025, Mean age: 11.6, Age range: 6 - 12, Percent female: Not reported% | Rotavirus , RotarixTM , GlaxoSmithKline , Each dose of the lyophilized formulation of RIX4414 (RotarixTM, GlaxoSmithKline, Belgium) vaccine contained at least 106.0 median cell culture infectious dose (CCID50) of live, attenuated human G1P rotavirus. The RIX4414 vaccine was reconstituted in a calcium carbonate buffer before oral administration. , Adjuvant: Not Reported , Preservative: Not reported , Delivery: Oral | Dose1: 2 Month Dose2: 4 Month | Any SAE : 29% Event: Intussusception : 0.3% , Syscat: 7 Event: Gastroenteritis-related symptoms requiring <=1 hospitalization : 8% , Syscat: 7 | Gastroenteritis-related symptoms requiring <=1 hospitalization: OR 0.793 (0.616-1.021) Intussusception: OR 2.001 (0.366-10.943) |
| Levin M. J. et al.,2010 US (not stated explicitly)[190](#_ENREF_190) | Controlled Clinical Trial | 7 | Sample size: 126, Mean age: NR, Age range: 7 - 12, Conditions: HIV | Human papillomavirus (HPV), Gardasil, Merck, Quadrivalent human papillomavirus (QHPV) (types 6, 11, 16, 18) recombinant vaccine, 0.5 mL, intramuscular, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Intramuscular | Dose1: 0 Weeks Dose2: 8 Weeks Dose3: 24 Weeks | Any adverse event: 29% Any SAE: 2%, Sev: 4 Event: Ear and eye and respiratory system: 1%, Syscat: 4, 5, 22 Event: Laboratory abnormality: 3%, Syscat: 13 Event: Systemic reactions: 2% Event: (Injection site reactions) Event: (Other) | Ear and eye and respiratory system: OR 0.305 (0.019-5.034) Laboratory abnormality: OR 0.935 (0.094-9.343) Systemic reactions: OR 0.617 (0.054-7.053) |
| Li R. et al.,2012 China[189](#_ENREF_189) | Controlled Clinical Trial | 4 | Sample size: 600, Mean age: 24.6, Age range: 9.0 - 45.8, Percent female: 83.3% | Human papillomavirus (HPV), Gardasil/Silgard, Merck, Says to see ref 19. But ref 19 is of a different trial where multiple formulations were used. Cannot ascertain useful information., Adjuvant: Not Reported, Preservative: Not Reported, Delivery: Intramuscular | Dose1: 1 Days Dose2: 2 Month Dose3: 6 Month | Any adverse event: 50.7% Event: Serious AE (any): 0% Event: Serious AE (vaccine-related): 0% Event: Severe pruritius: 0%, Syscat: 23, Sev: Serious Event: Systemic AE (any): 42.7% Event: Systemic AE (vaccine-related): 28.7% | Systemic AE (any): OR 1.122 (0.81-1.553) Systemic AE (vaccine-related): OR 1.066 (0.747-1.522) |
| Madhi S. A. et al.,2010 South Africa and Malawi[158](#_ENREF_158) | Controlled Clinical Trial | 3 | Sample size: 4939, Mean age: 6.4 in placebo and rotarix gro, Percent female: 49.6%, Conditions: HIV | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, Calcium carbonate buffer, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 6 Weeks Dose2: 10 Weeks Dose3: 14 Weeks | Event: Overall SAE: 9.7% Event: Gastroenteritis: 3.8%, Syscat: 7, Sev: Serious Event: Pneumonia: 2.3%, Syscat: 22, Sev: Serious Event: Bronchopneumonia: 1.4%, Syscat: 22, Sev: Serious Event: Bronchiolitis: 1%, Syscat: 22, Sev: Serious Event: Sepsis: 1.4%, Syscat: 11, Sev: Serious Event: Deaths: 2.5% Event: Intussception: 0.03%, Syscat: 7 Event: Vaccine-related AEs: 0.1% | Bronchiolitis: OR 1.027 (0.563-1.871) Bronchopneumonia: OR 0.995 (0.601-1.647) Deaths: OR 0.959 (0.661-1.393) Gastroenteritis: OR 0.779 (0.584-1.039) Overall SAE: OR 0.823 (0.68-0.995)\*\* Pneumonia: OR 0.818 (0.564-1.185) Sepsis: OR 1.234 (0.722-2.11) |
| Madhi, S.A. et al. 2013[108](#_ENREF_108) South Africa | Controlled Clinical Trial | 4 | Sample size : 410, Mean age: 23.8, Age range: 6 - 59, Percent female: 59% | Influenza (inactived) , VAXIGRIP , Sano?-Aventis  , Adjuvant: Adjuvant Free , Preservative: Not reported , Delivery: Intramuscular | Dose1: Not reported Dose2: 1 month later Month | Any SAE : 0% Event: Pain at site of injection : 2.3% , Syscat: 8 Event: Fever at least 37.5o C : 4.2% , Syscat: 8 Event: Induration at injection site : 2.3% , Syscat: 8 Event: Weakness : 4.5% , Syscat: 8 | Uncalcuable |
| Moreira Jr E. D. et al.,2011 18 countries including Brazil, Germany, Mexico, US, South Africa, Australia, Canada[187](#_ENREF_187) | Controlled Clinical Trial | 7 | Sample size: 4065, Mean age: NR, Age range: 16 - 26, Percent female: 0% | Human papillomavirus (HPV), Gardasil/Silgard, Merck, Quadrivalent HPV (type6/11/16/18) L1 VLP vaccine with amorphous aluminum hydroxyphosphatesulfate (AAHS) adjuvant, Adjuvant: Aluminum, Preservative: Not reported, Delivery: Intramuscular | Dose1: 1 Days Dose2: 2 Month Dose3: 6 Month | Any adverse event: 69.2% Any SAE: 0.4%, Sev: 3-5 Event: Death (entire study period): 0.2%, Sev: 5 Event: Discontinuation due to AE (entire study period): 0.3%, Sev: 1-5 Event: Discontinuation due to SAE (entire study period): 0.2%, Sev: 3-5 Event: 1 or more systemic AE (1-15 days): 31.7%, Sev: 1-3 Event: Influenza (1-15 days): 2.2%, Syscat: 11, Sev: 1-3 Event: Nasopharyngitis(1-15 days): 2.3%, Syscat: 11, Sev: 1-3 Event: Pharyngitis(1-15 days): 1.1%, Syscat: 11, Sev: 1-3 Event: Upper respiratory tract infection(1-15 days): 1.4%, Syscat: 11, Sev: 1-3 Event: Injury, Poisoning and Procedural Complications(1-15 days): 1.5%, Syscat: 12, Sev: 1-3 Event: Musculoskeletal and Connective Tissue Disorders(1-15 days): 3.1%, Syscat: 15, Sev: 1-3 Event: Nervous System Disorders(1-15 days): 10.6%, Syscat: 17, Sev: 1-3 Event: Dizziness(1-15 days): 1.0%, Syscat: 17, Sev: 1-3 Event: Respiratory, Thoracic And Mediastinal Disorders(1-15 days): 3.6%, Syscat: 22, Sev: 1-3 Event: Oropharyngeal pain(1-15 days): 2.0%, Syscat: 22, Sev: 1-3 Event: Gastrointestinal Disorders(1-15 days): 6.4%, Syscat: 7, Sev: 1-3 Event: General Disorders(1-15 days): 8.3%, Sev: 1-3 Event: Skin And Subcutaneous Tissue Disorders(1-15 days): 1.3%, Sev: 1-3 | Death (entire study period): OR 0.3 (0.083-1.093) Dizziness(1-15 days): OR 1.061 (0.555-2.027) Gastrointestinal Disorders(1-15 days): OR 1.049 (0.81-1.359) General Disorders(1-15 days): OR 0.953 (0.761-1.194) Influenza (1-15 days): OR 0.958 (0.625-1.469) Injury, Poisoning and Procedural Complications(1-15 days): OR 1.259 (0.734-2.162) Musculoskeletal and Connective Tissue Disorders(1-15 days): OR 1.232 (0.844-1.801) Nasopharyngitis(1-15 days): OR 0.881 (0.585-1.328) Nervous System Disorders(1-15 days): OR 0.889 (0.729-1.084) Oropharyngeal pain(1-15 days): OR 1.032 (0.654-1.63) Pharyngitis(1-15 days): OR 1.106 (0.602-2.033) Respiratory, Thoracic And Mediastinal Disorders(1-15 days): OR 20.774 (7.088-60.889)\*\* Skin And Subcutaneous Tissue Disorders(1-15 days): OR 0.84 (0.497-1.421) Upper respiratory tract infection(1-15 days): OR 1.361 (0.761-2.434) Discontinuation due to SAE (entire study period): OR 0.3 (0.083-1.093) |
| Narang A. et al.,2009 India[159](#_ENREF_159) | Controlled Clinical Trial | 5 | Sample size: 363, Mean age: 8.7, Age range: 8 - 10, Percent female: 47.1% | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, Vaccine contained at least 106.0 median cell culture infectious dose (CCID50) of the vaccine strain per dose. The placebo contained the same constituents as the study vaccine but without the virus component. The lyophilized vaccine and placebo were reconstituted with a diluent containing Calcium Carbonate as a buffer., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Month Dose2: 1 Month | Event: Serious adverse event: 2.61% Event: SAE, lower respiratory tract infection: 1.74%, Syscat: 11 Event: SAE, pneumonia: 0.87%, Syscat: 11 Event: GE episodes from dose 1 to one month post-dose 2: 12.6%, Syscat: 7 Event: Cough/runny nose: 3%, Syscat: 22, Sev: 3 Event: Diarrhea: 3%, Syscat: 7, Sev: 3 Event: Fever: 1%, Syscat: 8, Sev: 3 Event: Irritability: 1%, Syscat: 8, Sev: 3 Event: Loss of appetite: 1%, Syscat: 14, Sev: 3 Event: Vomiting: 4%, Syscat: 7, Sev: 3 Event: Cough/runny nose: 28%, Syscat: 22, Sev: 1-5 Event: Diarrhea: 9%, Syscat: 7, Sev: 1-5 Event: Fever: 16%, Syscat: 8, Sev: 1-5 Event: Irritability: 24%, Syscat: 8, Sev: 1-5 Event: Loss of appetite: 12%, Syscat: 14, Sev: 1-5 Event: Vomiting: 16%, Syscat: 7, Sev: 1-5 | Cough/runny nose: OR 1.515 (0.276-8.315) Cough/runny nose: OR 4.472 (2.02-9.902)\*\* Diarrhea: OR 1 (0.218-4.597) Diarrhea: OR 0.89 (0.366-2.164) Fever: OR 0.675 (0.346-1.319) GE episodes from dose 1 to one month post-dose 2: OR 0.94 (0.433-2.04) Irritability: OR 0.242 (0.031-1.913) Irritability: OR 2.316 (1.135-4.723)\*\* Loss of appetite: OR 1.136 (0.5-2.584) Serious adverse event: OR 1.473 (0.241-8.988) Vomiting: OR 0.093 (0.034-0.256)\*\* |
| Omenaca F. et al.,2012 France, Portugal, Poland and Spain[160](#_ENREF_160) | Controlled Clinical Trial | 6 | Sample size: 1009, Mean age: 8.5, Age range: 5 - 14, Percent female: 49%, Conditions: Premature babies | Rotavirus, Rotarix, GlaxoSmithKline, A single dose of RIX4414 vaccine contained at least 106.0 median cell culture infective dose of the live-attenuated RIX4414 human rotavirus strain., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Days Dose2: 30-83 Days | Any SAE: 5.1% Event: At least 1 unsolicited symptom: 29.3% Event: At least 1 unsolicited symptom (grade 3): 1.9%, Syscat: 8,7 Event: At least 1 unsolicited symptom (vaccine-related): 8.5% Event: Intussusception: 0%, Syscat: 7 Event: Death: 0%, Sev: 5 Event: infection - Gastroenteritis: 2.4%, Syscat: 11 Event: infection - Upper resp infection: 2.1%, Syscat: 11 | At least 1 unsolicited symptom: OR 0.602 (0.458-0.792)\*\* At least 1 unsolicited symptom (grade 3): OR 0.285 (0.142-0.573)\*\* At least 1 unsolicited symptom (vaccine-related): OR 0.608 (0.401-0.92)\*\* infection - Gastroenteritis: OR 0.744 (0.341-1.625) infection - Upper resp infection: OR 0.649 (0.291-1.448) |
| Phua K. B. et al.,2005 Singapore[161](#_ENREF_161) | Controlled Clinical Trial | 3 | Sample size: 2464, Mean age: 13.3, Age range: 11 - 17, Percent female: 50.2% | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, 10.7 ffu group. To produce RIX4414, the parent 89–12vaccine strain was further passaged in Vero cells and cloned [18,20]. The vaccine was a lyophilized preparation supplied in single-dose vials with calcium carbonate buffer for reconstitution., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Days Dose2: 1 Month | Any SAE: 6.27% Event: SAE - Intussusception: 0%, Syscat: 7, Sev: 2-4 Event: Severe Fever (Dose 1): 0%, Syscat: 8, Sev: 2-4 Event: Severe Fever (Dose 2): 0%, Syscat: 8, Sev: 2-4 Event: Severe Vomiting (Dose 1): 1%, Syscat: 7, Sev: 2-4 Event: Severe Vomiting (Dose 2): 1%, Syscat: 7, Sev: 2-4 Event: Severe Diarrhea (Dose 1): 0%, Syscat: 7, Sev: 2-4 Event: Severe Diarrhea (Dose 2): 0%, Syscat: 7, Sev: 2-4 | Severe Vomiting (Dose 1): OR 1 (0.312-3.203) Severe Vomiting (Dose 2): OR 1 (0.312-3.203) |
| Phua K. B. et al.,2009 Hong Kong, Singapore, Thailand[162](#_ENREF_162) | Controlled Clinical Trial | 8 | Sample size: 10708, Mean age: 11.6, Age range: 5 - 20, Percent female: 49.1% | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, contained at least 106.0 median cell culture infectious dose (CCID50) of the vaccine strain per dose, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Dose2: 1-2 Month | Event: Intussusception (within 31 days post vaccination): 0%, Syscat: 7, Sev: 1-4 Event: Intussusception (from Dose 1 to age 2): 0.15%, Syscat: 7, Sev: 1-4 Event: Death: 0.02%, Sev: 5 Event: Withdrawal due to AE: 0.13% | Death: OR 0.332 (0.035-3.195) Intussusception (from Dose 1 to age 2): OR 1.996 (0.601-6.632) Withdrawal due to AE: OR 0.581 (0.229-1.477) |
| Phua K. B. et al.,2012 Singapore, Hong Kong, Taiwan[163](#_ENREF_163) | Controlled Clinical Trial | 1 | Sample size: 8407, Mean age: 35.3, Age range: 23 - 44, Percent female: 49%, Percent pregnant: Percent Pregnant: 0% | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, reconstitution of lyophilized vaccine in calcium carbonate buffer to a concentration of at least 10\*6.0 cell culture infective dose (CCID50) of live-attenuated virus (median), Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: NR Dose2: 1-2 Month | Any adverse event: 0.24% Event: Intussusception: 7% Event: gastroenteritis (failed treatment?): 7% Event: Kawasaki disease: 1% | Intussusception: OR 1.983 (0.18-21.878) gastroenteritis (failed treatment?): OR 1.487 (0.248-8.905) |
| Rodriguez Z. M. et al.,2007 United States[164](#_ENREF_164) | Controlled Clinical Trial | 1 | Sample size: 1358, Mean age: 9.35, Age range: 6 - 13, Percent female: 51.1% | Rotavirus, Routine Vaccines, RotaTeq, Merck, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Days Dose2: 28-70 Days Dose3: 56-140 Days | Any adverse event: 82.3% Event: Diarrhea: 14.7%, Syscat: 7 Event: Vomiting: 9.4%, Syscat: 7 Event: Fever: 46.5%, Syscat: 8 Event: Upper respiratory infection: 23.6%, Syscat: 11 Event: Nasopharyngitis: 14.7%, Syscat: 11 Event: Otitis media: 10.1%, Syscat: 11 Event: Cough: 13.1%, Syscat: 22 Event: Nasal congestion: 13.0%, Syscat: 22 Event: Intussusception: 0.15%, Syscat: 7 | Cough: OR 1.027 (0.748-1.41) Diarrhea: OR 0.711 (0.535-0.946)\*\* Fever: OR 0.901 (0.728-1.115) Nasal congestion: OR 0.957 (0.699-1.311) Nasopharyngitis: OR 0.891 (0.664-1.197) Otitis media: OR 0.786 (0.561-1.103) Upper respiratory infection: OR 0.827 (0.647-1.056) Vomiting: OR 0.747 (0.528-1.055) |
| Roteli-Martins C. M. et al.,2012 Brazil[195](#_ENREF_195) | #10119 f/u | NC | Sample size: 436, Mean age: 26.5, Age range: 15 - 25, Percent female: 100%, Percent pregnant: Percent Pregnant: 17% | Human papillomavirus (HPV), HPV-16/18, GlaxoSmithKline, Described in another study, Adjuvant: ASO 4, Preservative: Not reported, Delivery: Reported in previous study | Dose1: 0 Month Dose2: 1 Month Dose3: 6 Month | Event: New Onset Chronic Disease: 2.2% Event: New Onset Autoimmune Disease, Syscat: 10 Event: Serious Adverse Events: 4.5% Event: Medically Significant Adverse Events: 17.9% | Medically Significant Adverse Events: OR 1.721 (0.998-2.97) New Onset Autoimmune Disease: OR 0.955 (0.133-6.84) New Onset Chronic Disease: OR 2.42 (0.464-12.609) Serious Adverse Events: OR 1.382 (0.516-3.699) |
| Ruiz-Palacios G. M. et al.,2006 Finland, Argentina, Brazil, Chile, Colombia, the Dominican Republic, Honduras, Mexico, Nicaragua, Panama, Peru, Venezuela[165](#_ENREF_165) | Controlled Clinical Trial | 6 | Sample size: 63225, Mean age: 8.2, Percent female: 49% | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, Contained 10.5 median cell-culture infective doses of the RIX4414 vaccine strain. Vaccine was reconstituted with 1.3 ml of liquid calcium carbonate buffer., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 2 Month Dose2: 4 Month | Event: Serious adverse events: 2.93% Event: Death: 0.18%, Syscat: 8, Sev: 5 Event: Hospitalization: 2.8% Event: Definite intussusception, 31 days or less after either dose: 0.02%, Syscat: 7 Event: Definite intussusception, 31 days or less after dose 1: 0%, Syscat: 7 Event: Definite intussusception, 31 days or less after dose 2: 0.02%, Syscat: 7 Event: Definite intussusception, between dose 1 and visit 3: 0.03%, Syscat: 7 | Death: OR 1.298 (0.872-1.932) Definite intussusception, 31 days or less after dose 1: OR 0.498 (0.045-5.493) Definite intussusception, 31 days or less after dose 2: OR 0.996 (0.288-3.441) Definite intussusception, 31 days or less after either dose: OR 0.854 (0.287-2.541) Definite intussusception, between dose 1 and visit 3: OR 0.56 (0.248-1.268) Hospitalization: OR 0.877 (0.8-0.961)\*\* Serious adverse events: OR 0.879 (0.804-0.962)\*\* |
| Santosham M. et al.,1991 United States[119](#_ENREF_119) | Controlled Clinical Trial | 4 | Sample size: 5190, Mean age: 54.6, Age range: 35 - 196, Percent female: 49.4% | Haemoph. influenza. type b (Hib) protein conjugate, Routine Vaccines, PedvaxHIB, Merck, OMPC lots 1072,1080, and 1085. After reconstitution with 0.1ml of dilutent, each 0.5m of vaccine contained 15 micrograms of H. influenza polysaccharide and 131 to 272 micrograms of group B meningococcal OMPC., Adjuvant: Aluminum, Preservative: Thimerisol, Delivery: Intramuscular | Dose1: 42-90 Days Dose2: 70-146 Days | Event: Viral infections: 0.5%, Syscat: 11 Event: Conjunctivitis: 2%, Syscat: 6 Event: Areas of redness measuring less than 2.54 cm in diameter: 3.3%, Syscat: 8 Event: Areas if swelling measuring less than 2.54 cm: 6.2%, Syscat: 8 Event: Hospitalizations 30 days after vaccination: 4.02% Event: Fever above 38.9 C: 1.63%, Syscat: 8 | Areas of redness measuring less than 2.54 cm in diameter: OR 2.713 (1.574-4.676)\*\* Areas if swelling measuring less than 2.54 cm: OR 9.446 (4.905-18.19)\*\* Conjunctivitis: OR 0.628 (0.408-0.968)\*\* Fever above 38.9 C: OR 1.059 (0.685-1.638) Hospitalizations 30 days after vaccination: OR 0.986 (0.748-1.299) Viral infections: OR 0.285 (0.13-0.627)\*\* |
| Schwarz, T.F. et al. 2012[196](#_ENREF_196) Taiwan, Germany, Honduras, Panama, and Colombia | Controlled Clinical Trial | NC | Sample size : 588, Mean age: 12, Percent female: 100%, Percent pregant: Percent Pregnant: 5% | Human papillomavirus (HPV) , HPV-16/18 AS04-adjuvanted vaccine , GlaxoSmithKline , Each dose of the HPV-16/18 vaccine consisted of 20 ®g each of HPV-16 andHPV-18 L1 proteins, self-assembled as virus-like particles, adjuvanted with the Adjuvant System AS04 (comprising 500 ®g of aluminum hydroxide and 50®g of MPL). , Adjuvant: ASO 4 , Preservative: Not reported , Delivery: Not reported | Dose1: 0 Month Dose2: 1 Month Dose3: 6 Month | Any SAE : 8% Event: New onset chronic disease : 9% , Syscat: NG Event: Medically significant condition : 51% , Syscat: NG | New onset chronic disease: OR 2.822 (1.818-4.38)\*\* |
| Shui I. M. et al.,2012 US[184](#_ENREF_184) | Cohort | 1 | Sample size: 117575, Mean age: NR, Age range: 4 - 34 | Rotavirus, RotaTeq, Merck, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Days Dose2: 2 Month Dose3: 2 Month | Event: Intussusception - All doses (1-30d risk period), Syscat: 7 Event: Intussusception - All doses (1-7d risk period), Syscat: 7 Event: Intussusception - 1 dose (1-30d risk period), Syscat: 7 Event: Intussusception - 1 dose (1-7d risk period), Syscat: 7 Event: Intussusception - 2 dose (1-30d risk period), Syscat: 7 Event: Intussusception - 2 dose (1-7d risk period), Syscat: 7 Event: Intussusception - 3 dose (1-30d risk period), Syscat: 7 Event: Intussusception - 3 dose (1-7d risk period), Syscat: 7 | Intussusception - 2 dose (1-30d risk period): OR 0.396 (0.106-1.473) Intussusception - 3 dose (1-30d risk period): OR 0.989 (0.247-3.954) Intussusception - 3 dose (1-7d risk period): OR 0.989 (0.09-10.907) Intussusception - All doses (1-30d risk period): OR 0.865 (0.363-2.063) Intussusception - All doses (1-7d risk period): OR 0.742 (0.124-4.439) |
| Sow S. O. et al.,2012 Vietnam, Bangledash, Ghana, Kenya, Mali[166](#_ENREF_166) | Controlled Clinical Trial | 5 | Sample size: 1960, Mean age: NR, Age range: 6 - 14, Percent female: 48.3% | Rotavirus, RotaTeq, Merck, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 6 Weeks Dose2: 10 Weeks Dose3: 14 Weeks | Event: One or more serious adverse events: 0.5% Event: Serious vaccine-related adverse events: 0% Event: Deaths: 0.3%, Syscat: 8 Event: Bronchiolitis: 0.1%, Syscat: 11 Event: Meningitis: 0.1%, Syscat: 11 Event: Meningitis pneumococcal: 0.1%, Syscat: 11 Event: Pneumonia: 0.2%, Syscat: 11 | Bronchiolitis: OR 1.002 (0.063-16.044) Deaths: OR 0.6 (0.143-2.518) One or more serious adverse events: OR 0.834 (0.254-2.742) Pneumonia: OR 0.667 (0.111-4.003) |
| Sow, P. S. et al. 2013[197](#_ENREF_197) Senegal, Tanzania | Controlled Clinical Trial | 5 | Sample size : 676, Mean age: 16.9, Age range: 10 - 25, Percent female: 100% | Human papillomavirus (HPV) , Cervarix , GlaxoSmithKline , Each dose of HPV-16/18 AS04-adjuvanted vaccine Cervarix ® (GlaxoSmithKline Vaccines) contained 20 µg each of HPV-16 and HPV-18 L1 viruslike particles, 50 µ g of 3-O-desacyl-4 ' - monophosphoryl lipid A, and 500 µ g of Al(OH)3. , Adjuvant: Aluminum , Preservative: Not reported , Delivery: Intramuscular | Dose1: 0 Days Dose2: 1 Month Dose3: 5 Month | Event: Death : 0% Event: SAE : 3.8% Event: AE leading to premature discontinuation : 0% Event: Medically significant condition : 69.3% Event: New onset chronic disease : 2.4% Event: New onset autoimmune disease : .4% , Syscat: 10 | Medically significant condition: OR 0.745 (0.518-1.07) New onset autoimmune disease: OR 0.5 (0.07-3.573) New onset chronic disease: OR 0.49 (0.209-1.148) SAE: OR 0.595 (0.288-1.229) |
| Steele A. D. et al.,2010 South Africa[167](#_ENREF_167) | Controlled Clinical Trial | 4 | Sample size: 475, Mean age: 6.3 | Rotavirus, Rotarix, GlaxoSmithKline, RIX4414 developed from 89-12 parent vaccine strain which was cloned and passaged on Vero cells. Viral concentration of 1 dose contained at least 1x10e6.0 medial cell culture infective dose and lyophilised vaccine was reconstituted with calcium carbonate as buffer, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 10 Weeks Dose2: 14 Weeks | Any adverse event: 70% Event: Serious adverse events (any): 5.3% Event: Serious adverse events (vaccine-related): 0% Event: Deaths (vaccine-related): 0% Event: Deaths (any): 1.1% Event: Intussusception: 0% | Serious adverse events (any): OR 1.011 (0.336-3.046) |
| Tregnaghi M. W. et al.,2011 Argentina, Brazil, Colombia, Dominican Republic, Honduras, and Panama[169](#_ENREF_169) | Controlled Clinical Trial | 4 | Sample size: 6568, Mean age: 8.6, Age range: 6 - 12 | Rotavirus, Rotatix, GlaxoSmithKline, Contained at least 106.0 median Cell Culture Infective Dose (CCID50) of live attenuated human rotavirus RIX4414 strain. The lyophilized vaccine was reconstituted with the supplied buffer before oral administration., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Days Dose2: 1-2 Month | Any SAE: 11.5%, Sev: 3-5 Event: Bronchiolitis: 3.4%, Syscat: 22, Sev: 3-4 Event: Gastroenteritis: 2.2%, Syscat: 7, Sev: 3-4 Event: Pneumonia: 2.1%, Syscat: 22, Sev: 3-4 Event: Intussusception: 0.1%, Syscat: 7, Sev: 3-4 Event: Death: 0.2%, Sev: 5 | Bronchiolitis: OR 1.178 (0.874-1.588) Intussusception: OR 1 (0.183-5.464) Death: OR 2.503 (0.548-11.436) Gastroenteritis: OR 0.727 (0.529-1)\*\* Pneumonia: OR 1 (0.699-1.43) |
| Vesikari T. et al.,2004 Finland[170](#_ENREF_170) | Controlled Clinical Trial | 5 | Sample size: 405, Mean age: 8.3, Age range: 6 - 12 | Rotavirus, Rotarix, GlaxoSmithKline, The vaccine was a lyophilized product; it was reconstituted with a diluent containing calcium carbonate as buffer. Each reconstituted vaccine dose contained 104.7 focus forming units of the RIX4414 strain rotavirus vaccine, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Not reported | Dose1: 2 Month Dose2: 4 Month | Event: Fever greater than or equal to 38.0°C, Dose 1: 12%, Syscat: 8 Event: Diarrhea, Dose 1: 8%, Syscat: 7 Event: Vomiting, Dose 1: 9%, Syscat: 7 Event: Irritability, Dose 1: 62%, Syscat: 8 Event: Loss of appetite, Dose 1: 24%, Syscat: 14 Event: Fever greater than or equal to 38.0°C, Dose 2: 27%, Syscat: 8 Event: Diarrhea: 4%, Syscat: 7 Event: Vomiting: 6%, Syscat: 7 Event: Irritability: 59%, Syscat: 8 Event: Loss of appetite: 24%, Syscat: 14 Event: Intussusception, Syscat: 7 | Diarrhea, Dose 1: OR 1.652 (0.685-3.984) Diarrhea: OR 2.042 (0.538-7.745) Fever greater than or equal to 38.0°C, Dose 2: OR 1.11 (0.694-1.773) Fever greater than or equal to 38.0°C, Dose 1: OR 1.103 (0.578-2.105) Irritability, Dose 1: OR 1.088 (0.715-1.654) Irritability: OR 1.276 (0.845-1.928) Loss of appetite, Dose 1: OR 1.542 (0.914-2.602) Vomiting, Dose 1: OR 1.879 (0.788-4.48) Vomiting: OR 0.645 (0.299-1.393) |
| Vesikari T. et al.,2006 Finland[171](#_ENREF_171) | Controlled Clinical Trial | 5 | Sample size: 1946, Age range: 2 - 8 | Rotavirus, NR, Low-potency pentavalent G1, G2, G3, G4, P1A 2.41×106., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Weeks Dose2: 4-8 Weeks Dose3: 8-16 Weeks | Event: Post-vaccination fever greater than or equal to 38.1 C rectally after dose 1: 27%, Syscat: 8 Event: Post-vaccination fever greater than or equal to 38.1 C rectally after dose 2: 27%, Syscat: 8 Event: Post-vaccination fever greater than or equal to 38.1 C rectally after dose 3: 30%, Syscat: 8 Event: Intussusception: 0.4%, Syscat: 7 Event: Deaths: 0% | Post-vaccination fever greater than or equal to 38.1 C rectally after dose 1: OR 1.479 (0.982-2.229) Post-vaccination fever greater than or equal to 38.1 C rectally after dose 2: OR 1.171 (0.788-1.74) Post-vaccination fever greater than or equal to 38.1 C rectally after dose 3: OR 1.286 (0.873-1.894) |
| Vesikari T. et al.,2006 11 countries[172](#_ENREF_172) | Controlled Clinical Trial | 8 | Sample size: 69274, Mean age: 9.8, Age range: 6 - 12, Percent female: 49.3% | Rotavirus, RotaTeq, Merck, Pentavalent, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Days Dose2: 4-10 Weeks Dose3: 4-10 Weeks | Any SAE: 2.4%, Syscat: 3-4 Event: Intussusception (total): 0.03%, Syscat: 7 Event: Intussusception (within 42 day of any dose): 0.02%, Syscat: 7 Event: Intussusception related Death: 0%, Syscat: 7 Event: Total deaths: 0.07%, Sev: 5 Event: Death due to SIDS: 0.02%, Sev: 5 |  |
| Vesikari T. et al.,2011 Finland[173](#_ENREF_173) | Controlled Clinical Trial | 3 | Mean age: 9.1, Age range: 6 - 12, Percent female: 50% | Rotavirus, Rotarix, GlaxoSmithKline, RIX4414 oral suspension (liquid formulation). Contained at least 10-6median cell culture infective dose (CCID50) of live attenuated RIX4414 human rotavirus strain. The liquid formulation of RIX4414 contained sucrose as excipient and the content of sucrose in the liquid formulation is higher than one in the lyophilized formulation., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 0 Days Dose2: 1 Month | Event: Cough/runny nose: 39%, Syscat: 22 Event: Diarrhea: 2%, Syscat: 7 Event: Fever: 8%, Syscat: 8 Event: Irritability: 69%, Syscat: 8 Event: Loss of appetite: 18%, Syscat: 8 Event: Vomiting: 14.2%, Syscat: 7 | Cough/runny nose: OR 0.959 (0.477-1.927) Diarrhea: OR 0.49 (0.066-3.639) Fever: OR 1.652 (0.381-7.173) Irritability: OR 1.199 (0.582-2.47) Loss of appetite: OR 0.778 (0.334-1.814) Vomiting: OR 1.098 (0.404-2.984) |
| Zaman K. et al.,2009 Bangladesh[175](#_ENREF_175) | Controlled Clinical Trial | 7 | Sample size: 294, Mean age: 6.1, Age range: 6 - 7, Percent female: 53.4% | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, 10.5 median cell culture infective dose of the G1P strain., Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 6 Weeks Dose2: 10 Weeks Dose3: 14 Weeks | Event: Unsolicited symptoms: 67%  Event: Death due to severe pneumonia and cardi respiratory and renal failure 16 days after dose 1: 1.03%, Syscat: 8 Event: Gastroenteritis: 1.03%, Syscat: 7  Event: Any diarrhea: =6/day: 2%, Syscat: 7, Sev: 3 Event: fever: rectal temperature =38 ?C: 15%, Syscat: 8, Sev: 3 Event: fever: rectal temperature >39.5 ?C: 3%, Syscat: 8, Sev: 1-5 Event: Irritability: 48%, Syscat: 8, Sev: 1-5  Event: Irritability: ying that could not be comforted/prevented normal activity: 2%, Syscat: 8, Sev: 3 Event: Loss of appetite: 38%, Syscat: 14, Sev: 1-5  Event: Vomiting: =1 episode of forceful emptying of partially digested stomach contents =1 h after feeding within a day: 22%, Syscat: 7, Sev: 1-5  Event: Vomiting: =3 episodes/day: 7%, Syscat: 7, Sev: 1-5 | fever: rectal temperature =38 ?C  OR 0.3 (0.134-0.675)\*\*  Any diarrhea: =6/day: OR 0.66 (0.074-5.862)  Gastroenteritis: OR 0.49 (0.03-8.001)  Loss of appetite: OR 1.138 (0.553-2.341)  Unsolicited symptoms: OR 0.603 (0.272-1.336)  Vomiting: =1 episode of forceful emptying of partially digested stomach contents =1 h after feeding within a day: OR 1.377 (0.564-3.364) |
| Zaman K. et al.,2010 Bangladesh and Vietnam[176](#_ENREF_176) | Controlled Clinical Trial | 8 | Sample size: 2035, Mean age: 8.9, Age range: 5.9 - 25.9, Percent female: 47% | Rotavirus, RotaTeq, Merck, Pentavalent rotavirus vaccine containing 5 human-bovine reassortant rotaviruses with the WC3 bovine strain as backbone and viral surface proteins corresponding to human rotavirus serotypes G1, G2 G3, G4, P1A[8], Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 6 Weeks Dose2: 10 Weeks Dose3: 14 Weeks | Any SAE: 2.5% Event: Death: 0.3%, Sev: 5 Event: Serious adverse events (vaccine-related): 0% | Death: OR 0.75 (0.167-3.36) |
| Zaman K. et al.,2012 Bangladesh[177](#_ENREF_177) | Controlled Clinical Trial | 5 | Sample size: 1136, Mean age: 8.2, Percent female: 48.6% | Rotavirus, Routine Vaccines, RotaTeq, GlaxoSmithKline, Adjuvant: Not Reported, Preservative: Not reported, Delivery: Oral | Dose1: 6 Weeks Dose2: 10 Weeks Dose3: 14 Weeks | Event: Acute diarrhea: 0.18%, Syscat: 7, Sev: Serious Event: Bronchiolitis: 0.53%, Syscat: 11, Sev: Serious Event: Umbilical infection: 0%, Syscat: 11, Sev: Serious Event: Pneumonia: 1.94%, Syscat: 11, Sev: Serious Event: Head injury: 0.18%, Syscat: 12, Sev: Serious Event: All Serious Adverse Events: 2.82%, Sev: Serious Event: Death, All causes: 0.53%, Syscat: 8, Sev: 5 Event: Death, CMV infection: 0.18%, Sev: 5 Event: Death, Pneumonia: 0.18%, Sev: 5 Event: Death, Hepatoblastoma: 0%, Sev: 5 Event: Death, UTI and sepsis: 0% Event: Accidental drowning: 0.18%, Sev: 5 | Acute diarrhea: OR 1 (0.062-16.027) All Serious Adverse Events: OR 0.939 (0.47-1.878) Death, All causes: OR 1 (0.201-4.976) Pneumonia: OR 0.728 (0.331-1.599) |

| **Evidence Table 4. Vaccinated versus unvaccinated: Children-adolescents** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Author- Year- Country** | **Vaccine2** | **Timing2** | **Adverse Event2** | **Control group** | **Adverse Events Control** |
| Andrews N. et al.,2010 UK[246](#_ENREF_246) | Haemoph. influenza. type b (Hib) protein conjugate, Polio (inactivated only), Tdap, Pediacel, Sanofi, Adjuvant: Not Reported, Preservative: Not reported, Delivery: | Dose1: NR | Any adverse event: 30.4% Event: Crying: 2223%, Syscat: 8 Event: Diarrhea: 18.4%, Syscat: 7 Event: Feeding Problem: 2.55%, Syscat: 7 Event: Fever: 7.2%, Syscat: 8 Event: Vaccine reaction: 0.1% Event: Vomiting: 11.88% Event: Convulsion/fit/seizure: 0.4%, Syscat: 17 Event: Apnea/collapse/cyanosis/pallor: 0.2%, Syscat: 17,8 AE: 0% AE: 0% AE: 0% |  |  |
| Armah G. E. et al.,2010 Ghana, Kenya, Mali[146](#_ENREF_146) |  |  |  | Placebo, Routine Vaccines Placebo includes same adjuvants, preservatives, formulations as the active group | Event: One or more serious adverse event: 1.7% Event: Vomiting: 0%, Syscat: 7 Event: Death: 0.1%, Syscat: 8 Event: Pyrexia: 0%, Syscat: 8 Event: Sudden infant death syndrome: <0.1%, Syscat: 8 Event: Bronchiolitis: <0.1%, Syscat: 11 Event: Bronchopneumonia: 17%, Syscat: 11 Event: Gastroenteritis: 0.6%, Syscat: 11 Event: Otitis media acute: <0.1%, Syscat: 11 Event: Pneumonia: 0.4%, Syscat: 11 Event: Respiratory tract infection: 0.2%, Syscat: 11 Event: Upper respiratory tract infection: 0.1%, Syscat: 11 Event: Other: 0.3% |
| Barbosa, C.M..et al. 2012[206](#_ENREF_206) Brazil | Varicella , Biken , Aventis-Pasteur , >=1000 plaque forming units of virus/0.5 mL , Adjuvant: Not Reported , Preservative: Not reported , Delivery: Intramuscular | Dose1: 0 Days | Any adverse event : 46.4% , Syscat: 7, 8 , Sev: 1 Event: Herpes Zoster : 0% , Syscat: 23 | Nothing | Any adverse event : 23.1% , Syscat: 7,8 , Sev: 1 Event: Herpes zoster : 3.8% , Syscat: 23 |
| Block S. L. et al.,2007 United States, Finland[147](#_ENREF_147) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: 89.8% Event: Serious Adverse Event: .04% Event: Gastrointestinal system: 1.52%, Syscat: 7 Event: Abdominal pain: 0.15%, Syscat: 7 Event: Constipation: 0.15%, Syscat: 7 Event: Decreased Appetite: 0.15%, Syscat: 14 Event: Dehydration: 0.61%, Syscat: 14 Event: Gastroenteritis: 1%, Syscat: 7 Event: Hematochezia: 0.15%, Syscat: 7 Event: General body: 0%, Syscat: 8 Event: Fever, greater than or equal to 102.5 F: 0%, Syscat: 8 Event: SIDS: 0%, Syscat: 8 Event: Nervous system: 0%, Syscat: 17 Event: Mengitis: 0%, Syscat: 11 Event: Partial Seizures: 0%, Syscat: 17 Event: Respiratory system, Syscat: 22 Event: Bronchiolitis/bronchitis/bronchospasm: 1.06%, Syscat: 22 Event: Influenza: 0.3% Event: Pertussis: .45%, Syscat: 22 Event: Pneumonia: 0.15%, Syscat: 22 Event: Respiratory syncytial virus infection: 1%, Syscat: 22 Event: Upper respiratory tract infection: 1%, Syscat: 22 AE: 0% AE: 0% AE: 0% AE: 0% AE: 0% AE: 0% AE: 0% AE: 0% |
| Block S. L. et al.,2010 Asia, Europe, Latin America, North America[188](#_ENREF_188) |  |  |  | Placebo There was an aluminum and a non-aluminum containing placebo. | Event: Blood/lymphatic system: 0%, Syscat: 1, Sev: 3,4,5 Event: Cardiac: 0.1%, Syscat: 2, Sev: 3,4,5 Event: Gastrointestinal: 0.2%, Syscat: 7, Sev: 3,4,5 Event: Hepatobiliary: 0%, Syscat: 9, Sev: 3,4,5 Event: Infections/infestations: 0.1%, Syscat: 11, Sev: 3,4,5 Event: Injury/poisoning/procedural: 0.3%, Syscat: 12, Sev: 3,4,5 Event: Musculoskeletal/connective tissue: 1%, Syscat: 15, Sev: 3,4,5 Event: Neoplasms benign malignant, unspecified: 0.01%, Syscat: 16, Sev: 3,4,5 Event: Nervous system: 0.05%, Syscat: 17, Sev: 3,4,5 Event: Pregnancy/puerperium/perinatal: 0.4%, Syscat: 18, Sev: 3,4,5 Event: Psychiatric: 0.02%, Syscat: 19, Sev: 3,4,5 Event: Renal/urinary: 0.02%, Syscat: 20, Sev: 3,4,5 Event: Reproductive system/breast: 0.04%, Syscat: 21, Sev: 3,4,5 Event: Respiratory/thoracic/mediastinal: 0.04%, Syscat: 22, Sev: 3,4,5 Event: Vascular: 0.02%, Syscat: 26, Sev: 3,4,5 Event: serious systemic AE: 1.1%, Sev: 3,4,5 Event: Death: 0.1%, Sev: 5 Event: Discontinuation due to AE: 0.2% |
| Capeding M. R. Z. et ak.,1996 Philippines[120](#_ENREF_120) | : |  |  | Routine Vaccines | Event: Serious adverse reactions: 0% Event: Irritability: 22%, Syscat: 8 Event: Fever: 22%, Syscat: 8 |
| Chang C.-C. et al.,2009 Taiwan[148](#_ENREF_148) |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Event: Fever, rectal temperature > 38.0°C: 57%, Syscat: 8 Event: Intussusception: 0%, Syscat: 7 Event: Diarrhea: 15.1%, Syscat: 7 Event: Vomiting: 7.5%, Syscat: 7 Event: Irritable crying: 1.1%, Syscat: 8 |
| Christie C. D. C. et al.,2010 Jamaica[149](#_ENREF_149) |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Any SAE: 3.5%, Sev: 4-5 Event: Death: 0.33%, Sev: 5 Event: Bronchiolitis: 1.2%, Syscat: 22, Sev: 1-3 Event: UTI: 0.6%, Syscat: 20, Sev: 1-3 Event: Otitis media: 0.3%, Syscat: 4, Sev: 1-3 Event: Gastroenteritis: 0.3%, Syscat: 7, Sev: 1-3 Event: Bronchopneumonia: 0%, Syscat: 22, Sev: 1-3 Event: Viral infections: 2%, Syscat: 11, Sev: 1-3 Event: Convulsions: 0.2%, Syscat: 17, Sev: 1-3 Event: Anemia: 0%, Syscat: 1, Sev: 1-3 Event: Anal fissure: 0%, Syscat: 7, Sev: 1-3 Event: Asthma: 0%, Syscat: 22, Sev: 1-3 Event: URI: 0%, Syscat: 22, Sev: 1-3 Event: Femur fracture: 0.1%, Syscat: 12, Sev: 1-3 Event: Intussusception: 0.2%, Syscat: 7, Sev: 1-3 |
| Clark, L.R. et al. 2013[200](#_ENREF_200) Europe, Latin America, North America |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Any SAE : 1.6% Event: One or more injection-site AE : 41% , Syscat: 8 Event: One or more systemic AE : 29.1% Event: Vaccine-related systemic AE : 18.2% Event: Serious vaccine-related AE : 0% Event: Abnormal live birth : 4.5% , Syscat: 18 Event: Congenital or other anomaly - live birth : 1% , Syscat: 18 Event: Other medical condition - live birth : 30% , Syscat: 18 Event: Number of fetal losses : 27% , Syscat: 18 Event: Spontaneous abortion : 6% , Syscat: 18 Event: Late fetal death : 3% , Syscat: 18 Event: Elective abortion : 18% , Syscat: 18 |
| De Carvalho N. et al.,2010 Brazil[194](#_ENREF_194) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any SAE: 2.4% Event: Medically significant adverse event (any): 6.2% Event: New onset chronic disease: 0% Event: New onset autoimmune disease: 0% |
| Dennehy P. H. et al.,2005 United States, Canada[150](#_ENREF_150) | Rotavirus, Routine Vaccines, RIX4414, GlaxoSmithKline, Adjuvant: Not Reported, Preservative: Not reported, Delivery: | Dose1: 0 Month Dose2: 2 Month | Any adverse event: 3.83% Event: Fever: 0%, Syscat: 8, Sev: Serious Event: Hypovolemia/dehydration: 0%, Syscat: 14, Sev: Serious Event: Meningitis: 0.48%, Syscat: 11, Sev: Serious Event: Petit mal seizures: .48%, Syscat: 17, Sev: Serious Event: Leukocytosis: 0%, Sev: Serious Event: Pyelonephritis: 0%, Sev: Serious Event: Kidney cyst: 0%, Syscat: 20, Sev: Serious Event: Bronchiolitis: .48%, Syscat: 22, Sev: Serious Event: Wheezing: 0%, Syscat: 22, Sev: Serious Event: Pneumonia: .5%, Syscat: 22, Sev: Serious Event: Asthma: 0%, Syscat: 22, Sev: Serious Event: Other respiratory illness: 0%, Syscat: 22, Sev: Serious Event: Gastroenteritis: 0%, Syscat: 7, Sev: Serious Event: GERD: 0%, Syscat: 7, Sev: Serious Event: Mesenteric adenitis: 1%, Syscat: 7, Sev: Serious AE: 0% AE: 0% AE: 0% | Placebo, Routine Vaccines Unsure of adjuvants, preservatives and formulations | Any adverse event: 9.26% Event: Fever: 0.93%, Syscat: 8, Sev: Serious Event: Hypovolemia/dehydration: 0.93%, Syscat: 14, Sev: Serious Event: Meningitis: 0%, Syscat: 11, Sev: Serious Event: Petit mal seizures: 0%, Syscat: 17, Sev: Serious Event: Leukocytosis: 1.85%, Syscat: 1, Sev: Serious Event: Pyelonephritis: 0%, Syscat: 20, Sev: Serious Event: Kidney cyst: 3%, Syscat: 20, Sev: Serious Event: Bronchiolitis: 2.78%, Syscat: 22, Sev: Serious Event: Wheezing: 0.93%, Syscat: 22, Sev: Serious Event: Pneumonia: .93%, Syscat: 22, Sev: Serious Event: Asthma: 0%, Syscat: 22, Sev: Serious Event: Other respiratory illness: 0.93%, Syscat: 22, Sev: Serious Event: Gastroenteritis: 0%, Syscat: 7, Sev: Serious Event: GERD: 0%, Syscat: 7, Sev: Serious Event: Mesenteric adenitis, Syscat: 7, Sev: Serious |
| Englund J. A. et al., 2010 US[105](#_ENREF_105) |  |  |  | Placebo 0.25 mL sterile with 0.9% sodium chloride | Any adverse event: 92.7%, Sev: 1-3 Any SAE: 1.5%, Sev: 2-3 Event: Fever >=38C (Dose 1): 11.7%, Syscat: 8, Sev: 1-3 Event: Any irritability (Dose 1): 78%, Syscat: 8, Sev: 1-3 Event: Decreased appetite (Dose 1): 42%, Syscat: 8, Sev: 1-3 Event: Any emesis (Dose 1): 12%, Syscat: 8, Sev: 1-3 Event: Abnormal crying (Dose 1): 62%, Syscat: 8, Sev: 1-3 Event: Any drowsiness (Dose 1): 65%, Syscat: 8, Sev: 1-3 Event: Fever >=38C (Dose 2), Syscat: 8, Sev: 1-3 Event: Any irritability (Dose 2): 57%, Syscat: 8, Sev: 1-3 Event: Decreased appetite (Dose 2): 23%, Syscat: 8, Sev: 1-3 Event: Any emesis (Dose 2): 9.4%, Syscat: 8, Sev: 1-3 Event: Abnormal crying (Dose 2): 39%, Syscat: 8, Sev: 1-3 Event: Any drowsiness (Dose 2): 40%, Syscat: 8, Sev: 1-3 Event: Death: 0%, Sev: 5 |
| Giuliano A. R. et al.,2011 18 countries[193](#_ENREF_193) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: 64.2% Event: Serious vaccine-related events (entire study period): 0% Event: Death (entire study period): 0.5%, Sev: 5 Event: Serious vaccine-related events (first 15 days): 0% Event: Death (first 15 days): 0% |
| Gotoh K. et al.,2011 Japan[110](#_ENREF_110) |  |  |  | Nothing | Any SAE: 0% Event: Acute allograft rejection: 2.8%, Syscat: 10 Event: Acute febrile illness: 31.0%, Syscat: 8 Event: Influenza virus infection: 5.6%, Syscat: 10 |
| Goveia M. G. et al.,2007 11 countries[151](#_ENREF_151) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any SAE: 5.8%, Sev: 3-4 Event: Bronchiolitis: 2.0%, Syscat: 22, Sev: 3-4 Event: Intussusception (confirmed): 0%, Syscat: 7, Sev: 3-4 Event: hematochezia: 0.09%, Syscat: 1, Sev: 3-4 Event: Deaths (total): 0.19%, Sev: 5 Event: Deaths due to SIDS: 0.09%, Sev: 5 Event: At least 1 SAE (extreme preemie): 9.8%, Sev: 3-4 Event: Bronchiolitis (extreme preemie): 1%, Syscat: 22, Sev: 3-4 Event: Pneumonia (extreme preemie): 1.1%, Syscat: 22, Sev: 3-4 Event: Apneic attack (extreme preemie): 1.1%, Syscat: 22, Sev: 3-4 |
| Grant L. R. et al.,2012 United States[152](#_ENREF_152) |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Event: Vomiting, vaccine related: 8.5%, Syscat: 7 Event: Diarrhea, vaccine related: 29.7%, Syscat: 7 Event: Fever, vaccine related: 32.3%, Syscat: 8 Event: Intussusception: 0%, Syscat: 7 Event: Deaths (outside of 42 day follow-up safety window and not assoc with vaccine): 0.2% Event: Vomiting, all events: 16.3%, Syscat: 7 Event: Diarrhea, all events: 275%, Syscat: 7 Event: Fever, all events: 55.9%, Syscat: 8 |
| Greenhawt, M.J. et al. 2012[109](#_ENREF_109) US |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Event: Localized urticaria : 35.2% , Syscat: 23 Event: Systemic urticaria : 52.9% , Syscat: 23 Event: Orofacial angioedema : 29.4% , Syscat: 23 Event: Throat itching : 17.6% , Syscat: 7 Event: Throat swelling : 5.9% , Syscat: 7 Event: Stridor : 11.7% , Syscat: 22 Event: Cough : 1% , Syscat: 22 Event: Dyspnea : 5.9% , Syscat: 22 Event: Wheezing : 11.7% , Syscat: 22 Event: Hypotension : 5.9% , Syscat: 26 Event: Vomiting : 58.8% , Syscat: 7 Event: Abdominal pain : 11.7% , Syscat: 7 |
| Halasa N. et al.,2011 US[106](#_ENREF_106) |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Any adverse event: 90% Any SAE: 0% Event: Fever >100C: 40%, Syscat: 8, Sev: 1-3 Event: Runny nose: 30%, Syscat: 22, Sev: 1-3 Event: Sore throat: 10%, Syscat: 22, Sev: 1-3 Event: Cough: 30%, Syscat: 22, Sev: 1-3 Event: Vomiting: 30%, Syscat: 8, Sev: 1-3 Event: Headache: 70%, Syscat: 8, Sev: 1-3 Event: Muscle aches: 3%, Syscat: 15, Sev: 1-3 Event: Chills: 30%, Syscat: 8, Sev: 1-3 Event: Tiredness: 60%, Syscat: 8, Sev: 1-3 Event: Irritability: 10%, Syscat: 8, Sev: 1-3 Event: Rash: 20%, Syscat: 10, Sev: 1-3 Event: Febrile neutropenia: 20%, Syscat: 1, Sev: 1-3 |
| Huu, T.N. et al. 2013[118](#_ENREF_118) Vietnam |  |  |  | Routine Vaccines | Event: SAE (total) : 6.0% , Syscat: See below , Sev: 2-3 Event: SAE-bronchiolitis : 3.0% , Syscat: 22 , Sev: 2-3 Event: SAE-diarrhea : 2.0% , Syscat: 7 , Sev: 2-3 Event: SAE-fungal infection : 2.0% , Syscat: 11 , Sev: 2-3 Event: SAE- urinary tract infection : 1.0% , Syscat: 11, 20 , Sev: 2-3 Event: SAE- gastro- oesophageal reflux diseas : 1.0% , Syscat: 7 , Sev: 2-3 Event: SAE - oral candidiasis : 1% , Syscat: 11 , Sev: 2-3 Event: SAE - viral infection : 1.0% , Syscat: 11 , Sev: 2-3 |
| Kang, S. et al. 2008[199](#_ENREF_199) Korea |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event : 71.2% , Syscat: 8, 23 , Sev: 1 Any SAE : 0% Event: SAE- Pharyngitis : 1.7% , Syscat: 22 , Sev: 3 Event: Vaccine related SAE : 0% Event: Discontinued due to AE : 0% Event: Discontinued due to vaccine related AE : 0% Event: Discontinued due to SAE : 0% Event: Discontinued due to vaccine related SAE : 0% |
| Kawamura N . et al.,2011 Japan[153](#_ENREF_153) |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Any adverse event: 73.5(8-daypostvacc)% Any SAE: 17.1% Event: # of patients with any AE (31-day post vacc): 56.0% Event: Eczema: 11.3%, Syscat: 23 Event: Upper respiratory tract infection: 9.7%, Syscat: 22 Event: Cough/runny nose (8-day post vacc): 34%, Syscat: 22, Sev: 1 Event: Diarrhea (8-day post vacc): 5%, Syscat: 7 Event: Fever (8-day post vacc): 8%, Syscat: 8 Event: Irritability (8-day post vacc), Syscat: 8 Event: Loss of appetite (8-day post vacc): 12%, Syscat: 8 Event: Vomiting (8-day post vacc): 14%, Syscat: 7 |
| Kerdpanich A. et al.,2010 Thailand[154](#_ENREF_154) | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, RIX4414 vaccine contained at least 106.0 cell culture infective dose 50 (CCID50) of the RIX4414 strain. Water base reconstitution., Adjuvant: Not Reported, Preservative: Not reported, Delivery: | Dose1: 0 Month Dose2: 2 Month | Any adverse event: <4% Any SAE: 2.87%, Syscat: 8,22,23, Sev: 3-4 Event: SAE- infantile colic: 1%, Syscat: 8, Sev: 3-4 Event: SAE- pneumonia: 1.15%, Syscat: 22, Sev: 3-4 Event: SAE -pharygotonsilitis: 0.57%, Syscat: 22, Sev: 3-4 Event: SAE- cellulitis: .57%, Syscat: 23, Sev: 3-4 Event: Loss of appetite: 2%, Sev: 3-4 Event: Fatality: 0%, Sev: 5 AE: 1% AE: 0% AE: 0% | Placebo, Routine Vaccines, Water Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: <4%, Sev: 3 Any SAE: 7.69%, Syscat: 22,20,8, Sev: 3-4 Event: SAE - Bronchiolitis: 3.85%, Syscat: 22, Sev: 3-4 Event: SAE - UTI: 3.85%, Syscat: 20, Sev: 3-4 Event: Loss of appetite: 38%, Syscat: 8 Event: Fatality: 0%, Sev: 5 |
| Khalil, M. et al. 2012[212](#_ENREF_212) Saudi Arabia |  |  |  | Routine Vaccines , They had no prior MPSV4, they got the MCV only | Event: Grade 2/3- Fever : 3.5% , Syscat: 8 , Sev: 2-3 Event: Grade 2/3- Headache : 1.2% , Syscat: 8 , Sev: 2-3 Event: Grade 2/3- Malaise : 1.2% , Syscat: 8 , Sev: 2-3 Event: Grade 2/3- Myalgia : 1.2% , Syscat: 8 , Sev: 2-3 Event: SAE - Upper respiratory tract infection (unsolicited) : 1.2% , Syscat: 22 , Sev: 3 Event: SAE- Pharyngitis (unsolicited) : 1.2% , Syscat: 22 , Sev: 3 |
| Khatun, S. et al. 2012[198](#_ENREF_198) Bangladesh |  |  |  | Nothing | Any SAE : 0% Event: Any AE after 1st dose : 20% , Syscat: 8, 7 Event: Any AE after 2nd dose : 12% , Syscat: 8, 7 Event: Any AE after 3rd dose : 10% , Syscat: 8, 7 Event: SAE : 0% |
| Kim D. S. et al.,2008 Korea[155](#_ENREF_155) | : |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Event: One or more serious adverse event: 11.1% Event: Intussusception: 0%, Syscat: 7 |
| Kim J. S. et al.,2012 South Korea[156](#_ENREF_156) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: 76.7% Any SAE: 7.4% Event: Patients with unsolicited AE over 31d: 33.5% Event: nasopharygitis (unsolicited/31d): 9.7%, Syscat: 22 Event: URI (unsolicited/31d): 4.5%, Syscat: 22 Event: Bronchiolitis (unsolicited/31d): 4.5%, Syscat: 22 Event: gastroenteritis (unsolicited/31d): 9.7%, Syscat: 7 Event: Bronchiolitis (total study period): 2.8%, Syscat: 22 Event: Gastroenteritis (total study period): 2.3%, Syscat: 7 AE: 1.31% |
| Kim S. C. et al.,2011 Korea[191](#_ENREF_191) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Event: Unsolicited - Infections and infestations: 10.5%, Syscat: 11 Event: Unsolicited - Breast and reproductive system: 4.48%, Syscat: 21 Event: Unsolicited -any AE (Grade 3): 32.8%, Sev: 3 Event: Medical significant adverse condition: 13.4% Event: New onset chronic diseases: 8.96% Event: Solicited - Arthralgias (Grade 3): 13.4%, Syscat: 15, Sev: 3 Event: Solicited - Fatigue (Grade 3): 2%, Syscat: 8, Sev: 3 Event: Solicited - Fever (Grade 3): 2.99%, Syscat: 8, Sev: 3 Event: Solicited - GI Symptoms (Grade 3): 25.4%, Syscat: 7, Sev: 3 Event: Solicited - Headache (Grade 3): 64%, Syscat: 17, Sev: 3 Event: Solicited - Myalgia (Grade 3): 80.6%, Syscat: 15, Sev: 3 Event: Solicited - Rash (Grade 3): 11.9%, Syscat: 23, Sev: 3 Event: Solicited - Urticaria (Grade 3): 4.48%, Syscat: 23, Sev: 3 |
| Klein, N.P. et al. 2012[213](#_ENREF_213) U.S., Colombia, Argentina |  |  |  | Routine Vaccines | Event: Uriticaria (6m) : 1% , Syscat: 23 , Sev: 2-3 Event: Uriticaria (12m) : 1% , Syscat: 23 , Sev: 2-3 Event: Severe change in eating habits (6m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe change in eating habits (12m) : <1% , Syscat: 8 , Sev: 2-3 Event: Severe sleepiness (6m) : <1% , Syscat: 8 , Sev: 2-3 Event: Severe sleepiness (12m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe persistent crying (6m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe persistent crying (12m) : <1% , Syscat: 8 , Sev: 2-3 Event: Severe irritability (6m) : 1% , Syscat: 8 , Sev: 2-3 Event: Severe irritability (12m) : <1% , Syscat: 8 , Sev: 2-3 Event: Severe diarrhea (6m) : <1% , Syscat: 7 , Sev: 2-3 Event: Severe diarrhea (12m) : <1% , Syscat: 7 , Sev: 2-3 Event: SAE-Death : 0% , Sev: 2-3 Event: SAE- Kawasaki disease : 0% , Syscat: 1 , Sev: 2-3 Event: SAE- partial complex seizures : 0% , Syscat: 17 , Sev: 2-3 Event: SAE- convulsions : 0% , Syscat: 17 , Sev: 2-3 |
| Laserson K. F. et al.,2012 Kenya[157](#_ENREF_157) |  |  |  | Placebo, Routine Vaccines Unsure of adjuvants, preservatives and formulations | Any adverse event: 98% Event: One or more serious adverse event: 15.3% Event: Infections: 13.3%, Syscat: 11, Sev: Serious Event: Respiratory, thoracic and mediastinal disorders: 0.7%, Syscat: 22, Sev: Serious Event: General disorders and administration site conditions: 0.7%, Syscat: 8, Sev: Serious Event: Death: 0.7% Event: Infections: 82.7%, Syscat: 11, Sev: Serious Event: Respiratory, thoracic, and mediastinal disorders: 100%, Syscat: 22, Sev: Serious Event: General disorders and administration site conditions: 66.7%, Syscat: 8, Sev: Serious Event: Gastrointestinal disorders: 50.0%, Syscat: 7, Sev: Serious Event: Nervous system disorders: 2.7%, Syscat: 17, Sev: Serious Event: Reproductive system and breast disorders: 0%, Syscat: 22, Sev: Serious |
| Lau, Y.L. et al. 2013[179](#_ENREF_179) China |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any SAE : 32% Event: Intussusception : 0.1% , Syscat: 7 Event: Gastroenteritis-related symptoms requiring <=1 hospitalization : 10% , Syscat: 7 |
| Levin M. J. et al.,2010 US (not stated explicitly)[190](#_ENREF_190) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: 23% Any SAE: 0% Event: Ear and eye and respiratory system: 3%, Syscat: 4, 6, 22 Event: Laboratory abnormality: 3%, Syscat: 13 Event: Systemic reactions: 3% Event: (Injection site reactions) Event: (Other) |
| Li R. et al.,2012 China[189](#_ENREF_189) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: 44.0% Event: Serious AE (any): 0.3% Event: Serious AE (vaccine-related): 0% Event: Severe pruritius: 0%, Syscat: 23 Event: Systemic AE (any): 39.9% Event: Systemic AE (vaccine-related): 27.5% |
| Madhi S. A. et al.,2010 South Africa and Malawi[158](#_ENREF_158) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Event: Overall SAE: 11.5%, Sev: Serious Event: Gastroenteritis: 4.8%, Syscat: 7, Sev: Serious Event: Pneumonia: 2.8%, Syscat: 22, Sev: Serious Event: Sepsis: 1.2%, Syscat: 11, Sev: Serious Event: Bronchopneumonia: 1.4%, Syscat: 22, Sev: Serious Event: Bronchiolitis: 1%, Syscat: 22, Sev: Serious Event: Vaccine-related AEs: 43% Event: Deaths: 2.6% |
| Madhi, S.A. et al. 2013[108](#_ENREF_108) South Africa |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Any SAE : 0% |
| Moreira Jr E. D. et al.,2011 18 countries including Brazil, Germany, Mexico, US, South Africa, Australia, Canada[187](#_ENREF_187) | : |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: 64.2% Any SAE: 0.6% Event: Death (entire study): 0.5%, Sev: 5 Event: discontinued due to an adverse experience (entire study): 0.7%, Sev: 1-5 Event: discontinued due to SAE(entire study): 0.5%, Sev: 3-5 Event: Gastrointestinal Disorders (1-15 days): 6.2%, Syscat: 7, Sev: 1-5 Event: General Disorders (1-15 days): 8.7%, Syscat: 8, Sev: 1-5 Event: Infections and Infestations (1-15 days): 9.6%, Syscat: 11, Sev: 1-5 Event: Influenza (1-15 days): 50%, Syscat: 11, Sev: 1-5 Event: Nasopharyngitis (1-15 days): 2.6%, Syscat: 11, Sev: 1-5 Event: Pharyngitis (1-15 days): 1.0%, Syscat: 11, Sev: 1-5 Event: Upper respiratory tract infection (1-15 days): 1.0%, Syscat: 11, Sev: 1-5 Event: Injury, Poisoning and Procedural (1-15 days) Complications: 1.2%, Syscat: 12, Sev: 1-5 Event: Musculoskeletal and Connective Tissue Disorders (1-15 days): 2.6%, Syscat: 15, Sev: 1-5 Event: Nervous System Disorders (1-15 days): 11.8%, Syscat: 17, Sev: 1-5 Event: Dizziness (1-15 days): 0.9%, Syscat: 17, Sev: 1-5 Event: Respiratory, Thoracic And Mediastinal Disorders (1-15 days): 3.5%, Syscat: 22, Sev: 1-5 Event: Oropharyngeal pain (1-15 days): 1.9%, Syscat: 22, Sev: 1-5 Event: Skin And Subcutaneous Tissue Disorders (1-15 days): 1.6%, Sev: 1-5 |
| Narang A. et al.,2009 India[159](#_ENREF_159) |  |  |  | Placebo, Routine Vaccines Unsure of adjuvants, preservatives and formulations | Event: Serious adverse events: 1.79% Event: SAE, bronchiolitis: 0.89%, Syscat: 22 Event: SAE, parotitis: 0.89%, Syscat: 11 Event: GE episodes from dose 1 to one month post-dose 2: 13.3%, Syscat: 7 Event: Cough/runny nose: 2%, Syscat: 22, Sev: 3 Event: Diarrhea: 3%, Syscat: 7, Sev: 3 Event: Fever, Syscat: 8, Sev: 3 Event: Irritability: 4%, Syscat: 8, Sev: 3 Event: Loss of appetite: 0%, Syscat: 14, Sev: 3 Event: Vomiting: 5%, Syscat: 7, Sev: 3 Event: Cough/runny nose: 31%, Syscat: 22, Sev: 1-5 Event: Diarrhea: 8%, Syscat: 7, Sev: 1-5 Event: Fever: 10%, Syscat: 8, Sev: 1-5 Event: Irritability: 22%, Syscat: 8, Sev: 1-5 Event: Loss of appetite: 12%, Syscat: 14, Sev: 1-5 Event: Vomiting: 7.5%, Syscat: 7, Sev: 1-5 |
| Omenaca F. et al.,2012 France, Portugal, Poland and Spain[160](#_ENREF_160) | : |  |  | Placebo includes same adjuvants, preservatives, formulations as the active group | Event: At least 1 SAE: 6.2% Event: At least 1 unsolicited symptom: 40.7% Event: At least 1 unsolicited symptom (Grade 3): 6.5%, Syscat: 8,7, Sev: 3 Event: At least 1 unsolicited symptom (vaccine related): 13.3% Event: Death - Bronchiolitis: 0.29%, Sev: 5 Event: Intussception: 0%, Syscat: 7 Event: infection - Gastroenteritis, Syscat: 11 Event: infection - upper resp infection: 3.2%, Syscat: 11 |
| Phua K. B. et al.,2005 Singapore[161](#_ENREF_161) | Rotavirus, Routine Vaccines, Rotarix, GlaxoSmithKline, 10.2 ffu group. To produce RIX4414, the parent 89–12vaccine strain was further passaged in Vero cells and cloned [18,20]. The vaccine was a lyophilized preparation supplied in single-dose vials with calcium carbonate buffer for reconstitution., Adjuvant: Not Reported, Preservative: Not reported, Delivery: | Dose1: 0 Days Dose2: 1 Month | Any SAE: 8.33% Event: SAE - Intussception (likely related to vaccine), Syscat: 7, Sev: 2-4 Event: Severe Fever (Dose 1): 1%, Syscat: 8, Sev: 2-4 Event: Severe Fever (Dose 2), Syscat: 8, Sev: 2-4 Event: Severe Vomiting (Dose 1): 2%, Syscat: 7, Sev: 2-4 Event: Severe Vomiting (Dose 2): 2%, Sev: 2-4 Event: Severe Diarrhea (Dose 1), Sev: 2-4 Event: Severe Diarrhea (Dose 2): 0%, Syscat: 7, Sev: 2-4 AE: 0% | Placebo, Routine Vaccines Unsure of adjuvants, preservatives and formulations | Any SAE: 6.12% Event: SAE- Intussusception (likely unrelated to vaccine): 1%, Syscat: 7, Sev: 2-4 Event: Severe Fever (Dose 1): 0%, Syscat: 8, Sev: 2-4 Event: Severe Fever (Dose 2): 1%, Syscat: 8, Sev: 2-4 Event: Severe Vomiting (Dose 1): 1%, Syscat: 7, Sev: 2-4 Event: Severe Vomiting (Dose 2): 1%, Syscat: 7, Sev: 2-4 Event: Severe Diarrhea (Dose 1): 0%, Syscat: 7, Sev: 2-4 Event: Severe Diarrhea (Dose 2), Syscat: 7, Sev: 2-4 |
| Phua K. B. et al.,2009 Hong Kong, Singapore, Thailand[162](#_ENREF_162) | : |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Sev: 3-5 Event: Intussusception (w/in 31 days post vaccination): 0%, Syscat: 7, Sev: 1-4 Event: Intussusception (Dose 1 to age 2): 0.07%, Syscat: 7, Sev: 1-4 Event: Death (entire study period): 0.06%, Sev: 5 Event: Withdrawal due to AE: 0.22% |
| Phua K. B. et al.,2012 Singapore, Hong Kong, Taiwan[163](#_ENREF_163) |  |  |  | Placebo, Routine Vaccines Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: 0.26% Event: Intussusception: 0.02% Event: gastroenteritis: 0.05% |
| Rodriguez Z.M. et al., 2007[164](#_ENREF_164) United States |  |  |  | Placebo, Routine Vaccines Unsure of adjuvants, preservatives and formulations | Any adverse event: 87.1% Event: Diarrhea: 19.5%, Syscat: 7 Event: Vomiting: 12.2%, Syscat: 7 Event: Fever: 49.1%, Syscat: 8 Event: Upper respiratory infection: 27.2%, Syscat: 11 Event: Nasopharyngitis: 16.2%, Syscat: 11 Event: Otitis media: 12.5%, Syscat: 11 Event: Cough, Syscat: 22 Event: Nasal congestion: 13.5%, Syscat: 22 |
| Roteli-Martins C. M et al.,2012 Brazil[195](#_ENREF_195) |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Event: New Onset Chronic Disease: 0.9% Event: New Onset Autoimmune Disease, Syscat: 10 Event: Serious Adverse Events: 3.3% Event: Medically Significant Adverse Events: 11.3% |
| Ruiz-Palacios G. M. et al.,2006 Finland, Argentina, Brazil, Chile, Colombia, the Dominican Republic, Honduras, Mexico, Nicaragua, Panama, Peru, Venezuela[165](#_ENREF_165) |  |  |  | Placebo, Routine Vaccines Placebo includes same adjuvants, preservatives, formulations as the active group | Event: Serious adverse event between dose 1 and visit 3: 3.32% Event: Hospitalization: 3.18%, Sev: 3, 4 Event: Death: 0.14%, Syscat: 8, Sev: 5 Event: Deinite intussusception, 31 days or less after either dose: 0.02%, Syscat: 7 Event: Deinite intussusception, 31 days or less after dose 1: 0.01%, Syscat: 7 Event: Deinite intussusception, 31 days or less after dose 2: 0.02%, Syscat: 7 Event: Deinite intussusception, between dose 1 and visit 3: .05%, Syscat: 7 AE: 0% |
| Santosham M. et al.1991 United States[119](#_ENREF_119) |  |  |  | Placebo, Routine Vaccines Unsure of adjuvants, preservatives and formulations | Event: Viral infections: 1.6%, Syscat: 11 Event: Conjunctivitis: 3.1%, Syscat: 6 Event: Areas of redness measuring less than 2.54 cm in diameter: 1.2%, Syscat: 8 Event: Areas of swelling measuring less than 2.54 cm in diameter: 0.7%, Syscat: 8 Event: Hospitalizations 30 days after vaccination: 4.07% Event: Fever above 38.9 C: 1.54%, Syscat: 8 |
| Schwarz, T.F. et al. 2012[196](#_ENREF_196) Taiwan, Germany, Honduras, Panama, and Colombia |  |  |  | Routine Vaccines | Any SAE : 3% Event: New onset chronic disease : 3% , Syscat: NG Event: Medically signi?cant condition : 26% , Syscat: NG |

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| **Evidence Table 4. Vaccinated versus unvaccinated: Children-adolescents** | | | | | |
| Shui I. M. et al.,2012 US[184](#_ENREF_184) |  |  |  | Routine Vaccines | Event: Intussusception - All doses (1-30d risk period), Syscat: 7 Event: Intussusception - All doses (1-7d risk period), Syscat: 7 Event: Intussusception - 1 dose (1-30d risk period), Syscat: 7 Event: Intussusception - 1 dose (1-7d risk period), Syscat: 7 Event: Intussusception - 2 dose (1-30d risk period), Syscat: 7 Event: Intussusception - 2 dose (1-7d risk period), Syscat: 7 Event: Intussusception - 3 dose (1-30d risk period): 1%, Syscat: 7 Event: Intussusception - 3 dose (1-7d risk period), Syscat: 7 |
| Sow S. O. et al.,2012 Vietnam, Bangledash, Ghana, Kenya, Mali[166](#_ENREF_166) |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Event: One or more serious adverse events: 0.6% Event: Serious vaccine-related adverse events: 0.2% Event: Deaths: 0.5%, Syscat: 8 Event: Bronchiolitis: 0.1%, Syscat: 11 Event: Meningitis: 0%, Syscat: 11 Event: Meningitis pneumococcal: 3%, Syscat: 11 Event: Pneumonia: 3%, Syscat: 11 |
| Sow, P. S. et al. 2013[197](#_ENREF_197) Senegal, Tanzania |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Event: Death : 0% Event: SAE : 6.2% Event: AEs leading to premature discontinuation : 0% Event: Medically significant condition : 75.2% Event: New onset chronic disease : 4.9% Event: New onset autoimmune disease : 0.9% , Syscat: 10 |
| Steele A. D. et al.,2010 South Africa[167](#_ENREF_167) | Rotavirus, Rotarix, GlaxoSmithKline, RIX4414 developed from 89-12 parent vaccine strain which was cloned and passaged on Vero cells. Viral concentration of 1 dose contained at least 1x10e6.0 medial cell culture infective dose and lyophilized vaccine was reconstituted with calcium carbonate as buffer, Adjuvant: Not Reported, Preservative: Not Reported | Dose1: 6 Weeks Dose2: 10 Weeks Dose3: 14 Weeks | Any adverse event: 54%, Sev: N,N Event: Serious adverse events (any): 9% Event: Serious adverse events (vaccine-related): 0% Event: Death (vaccine-related): 0% Event: Death (any): 0.5% Event: Intussusception: 0% AE: 0% AE: 0% AE: 0% | Placebo, Routine Vaccines Placebo includes same adjuvants, preservatives, formulations as the active group | Any adverse event: 59% Event: Serious adverse events (any): 5.2% Event: Serious adverse-events (vaccine-related): 1%, Syscat: 7, Sev: Serious Event: Death (vaccine-related): 0% Event: Death (any): 0% Event: Intussusception: 0% |
| **Evidence Table 4. Vaccinated versus unvaccinated: Children-adolescents** | | | | | |
| Tregnaghi M. W. et al.,2011 Argentina, Brazil, Colombia, Dominican Republic, Honduras, and Panama[169](#_ENREF_169) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Any SAE: 12.1%, Sev: 3-5 Event: Bronchiolitis: 2.9%, Syscat: 22, Sev: 3-4 Event: Gastroenteritis: 3.0%, Syscat: 7, Sev: 3-4 Event: Pneumonia: 2.1%, Syscat: 22, Sev: 3-4 Event: Intussusception: 0.1%, Syscat: 7, Sev: 3-4 Event: Death: 0.1%, Sev: 5 |
| Vesikari T. et al.,2004 Finland[170](#_ENREF_170) |  |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Event: Fever greater than or equal to 38.0°C, Dose 1: 11%, Syscat: 8 Event: Diarrhea, Dose 1: 5%, Syscat: 7 Event: Vomiting, Dose 1: 5%, Syscat: 7 Event: Irritability, Dose 1: 60%, Syscat: 8 Event: Loss of appetite, Dose 1: 17%, Syscat: 14 Event: Fever greater than or equal to 38.0°C: 25%, Syscat: 8 Event: Diarrhea, Dose 2, Syscat: 7 Event: Vomiting, Dose 2: 9%, Syscat: 7 Event: Irritability, Dose 2: 53%, Syscat: 8 Event: Loss of appetite, Dose 2: 20%, Syscat: 14 Event: Intussusception: 0%, Syscat: 7 |
| Vesikari T. et al.,2006 Finland[171](#_ENREF_171) | : |  |  | Placebo Placebo includes same adjuvants, preservatives, formulations as the active group | Event: Post-vaccination fever greater than or equal to 38.1 C rectally after dose 1, Syscat: 8 Event: Post-vaccination fever greater than or equal to 38.1 C rectally after dose 2, Syscat: 8 Event: Post-vaccination fever greater than or equal to 38.1 C rectally after dose 3, Syscat: 8 |
| Vesikari T. et al.,2006 11 countries[172](#_ENREF_172) |  |  |  | Placebo Unsure of adjuvants, preservatives and formulations | Any SAE: 2.5% Event: Intussusception (total) Event: Intussusception w/in 42 days of any dose Event: Intussusception related death: 0%, Sev: 5 Event: Deaths (all): 0.1%, Sev: 5 Event: Death due to SIDS, Sev: 5 |
| Vesikari T. et al.,2011 Finland[173](#_ENREF_173) | Rotavirus, Rotarix, GlaxoSmithKline, lyophilized formulation (1 ml after reconstitution with calcium carbonate buffer). Contained at least 10-6median cell culture infective dose (CCID50) of live attenuated RIX4414 human rotavirus strain, Adjuvant: Not Reported, Preservative: Not rep | Dose1: 0 Days Dose2: 1 Month | Event: Cough/runny nose, Syscat: 22 Event: Diarrhea: 5.5%, Syscat: 7 Event: Fever, Syscat: 8 Event: Irritability: 66%, Syscat: 8 Event: Loss of appetite: 20% Event: Vomiting AE: 6% | Placebo Unsure of adjuvants, preservatives and formulations | Event: Cough/runny nose: 40%, Syscat: 22 Event: Diarrhea: 4%, Syscat: 7 Event: Fever: 5%, Syscat: 8 Event: Irritability: 65%, Syscat: 8 Event: Loss of appetite: 22%, Syscat: 8 Event: Vomiting: 13.1%, Syscat: 7 |
| **Evidence Table 4. Vaccinated versus unvaccinated: Children-adolescents** | | | | | |
| Zaman K. et al.,2010 Bangladesh and Vietnam[176](#_ENREF_176) |  |  |  | Placebo, Routine Vaccines Placebo includes same adjuvants, preservatives, formulations as the active group | Any SAE: 0.2% Event: Death: 0.4% Event: Serious adverse event (vaccine-related): 0% |
| Zaman K. et al.,2012 Bangladesh[177](#_ENREF_177) |  |  |  | Placebo, Routine Vaccines Unsure of adjuvants, preservatives and formulations | Event: Acute diarrhea: 0.18%, Syscat: 7, Sev: Serious Event: Bronchiolitis: 0%, Syscat: 11, Sev: Serious Event: Umbilical infection: 0.18%, Syscat: 11, Sev: Serious Event: Pneumonia: 2.64%, Syscat: 11, Sev: Serious Event: Head injury: 0%, Syscat: 12, Sev: Serious Event: All Serious adverse events: 2.99%, Sev: Serious Event: Death, all causes: 0%, Syscat: 8, Sev: 5 Event: Death, CMV infection: 0%, Sev: 5 Event: Death, Pneumonia: 0%, Sev: 5 Event: Death, Hepatoblastoma: .18%, Sev: 5 Event: Death, UTI sepsis: 0.18%, Sev: 5 Event: Death, Accidental drowning: 0.18%, Sev: 5 |
| Zaman K., et al.,2009 Bangladesh[175](#_ENREF_175) |  |  |  | Placebo, Routine Vaccines Unsure of adjuvants, preservatives and formulations | Event: Unsolicited symptoms: 77.1% Event: Gastroenteritis: 2.08%, Syscat: 7  Event: Any diarrhea: =6/day: 3%, Syscat: 7, Sev: 3 Event: Fever: rectal temperature =38 ? C: 37%, Syscat: 8, Sev: 1-5 Event: Loss of appetite: 35%, Syscat: 14, Sev: 1-5  Event: Vomiting: =1 episode of forceful emptying of partially digested stomach contents =1 h after feeding within a day: 17%, Syscat: 7, Sev: 1-5 |