This systematic review of 58 observational studies identified hypothetical causal mechanisms explaining the effects of short and long intervals between pregnancies on maternal, perinatal, infant, and child health, and critically examined the scientific evidence for each causal mechanism hypothesized. The following hypothetical causal mechanisms for explaining the association between short intervals and adverse outcomes were identified: maternal nutritional depletion, folate depletion, cervical insufficiency, vertical transmission of infections, suboptimal lactation related to breastfeeding–pregnancy overlap, sibling competition, transmission of infectious diseases among siblings, incomplete healing of uterine scar from previous cesarean delivery, and abnormal remodeling of endometrial blood vessels. Women's physiological regression is the only hypothetical causal mechanism that has been proposed to explain the association between long intervals and adverse outcomes. We found growing evidence supporting most of these hypotheses.