and 12 months old (r = 0.515, $p < 0.001$, and r = 0.332, $p = 0.199$, respectively). However, this correlation was not repeated in the glucose group, suggesting that glucose is an effective intervention for reducing vaccine-related pain in very young infants.

- One hundred thirteen infants were randomized to receive 2 ml 50% sucrose, 75% sucrose, or water by mouth prior to administration of 2-, 4-, and 6-month vaccines (Curry, Brown, and Wrona, 2012). Pain was measured by the FLACC Pain Assessment Tool (**F**acial expression, **L**eg movement, **A**ctivity, **C**ry, and **C**onsolability) score and crying time. There was no significant difference between the intervention groups and control group in terms of FLACC scores or crying time ($p = 0.646$ and $p = 0.24$, respectively). Parents were not instructed to withhold comfort measures, and infants who were rocked, held, or patted had significantly lower FLACC scores ($p = 0.029$).

Apply the Evidence: Nursing Implications

There is moderate evidence with strong recommendations using the GRADE criteria (Balshem, Helfand, Schunemann, et al, 2011) that the following interventions reduce pain during routine immunizations for infants and children between 0 and 18 months old:

- Skin-to-skin or breastfeeding where appropriate and agreeable to the caregiver and infant
- Upright positioning of child (sitting or held by caregiver)
- Sucrose administration prior to injection