

The Impact of Education on Women's Awareness of and Behaviors surrounding Congenital Cytomegalovirus

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Objectives

01

Compare print and video education as they relate to improvements in knowledge of cCMV.

02

Address the factors that contribute to the gap between health knowledge and implementing of behavioral changes.

03

Discuss the implications of cCMV education for public health and how it can be implemented in clinic workflow to reduce the burden of this condition.

Hearing Targeted- CMV

- Utah implemented hearing-targeted cCMV screening
- 14 of 234 cCMV tested infants were diagnosed with this approach
- 2019 – expanded targeted early CMV testing approach
 - Maternal history of CMV infection
 - Idiopathic elevated liver enzymes or bilirubin
 - Failed newborn hearing screen
 - Abnormal central nervous system imaging suggestive of cCMV
 - Unexplained thrombocytopenia
 - IUGR
 - Small for gestational age
 - Microcephaly
 - Petechial rash

Importance of Prenatal Period

- Parents are important in CMV screening and testing programs
- Prenatal period represents an opportunity as expectant parents are eager to learn about their child's health
- Oral exposures are common (Canon et al., 2012)



Image by wirestock on Freepik

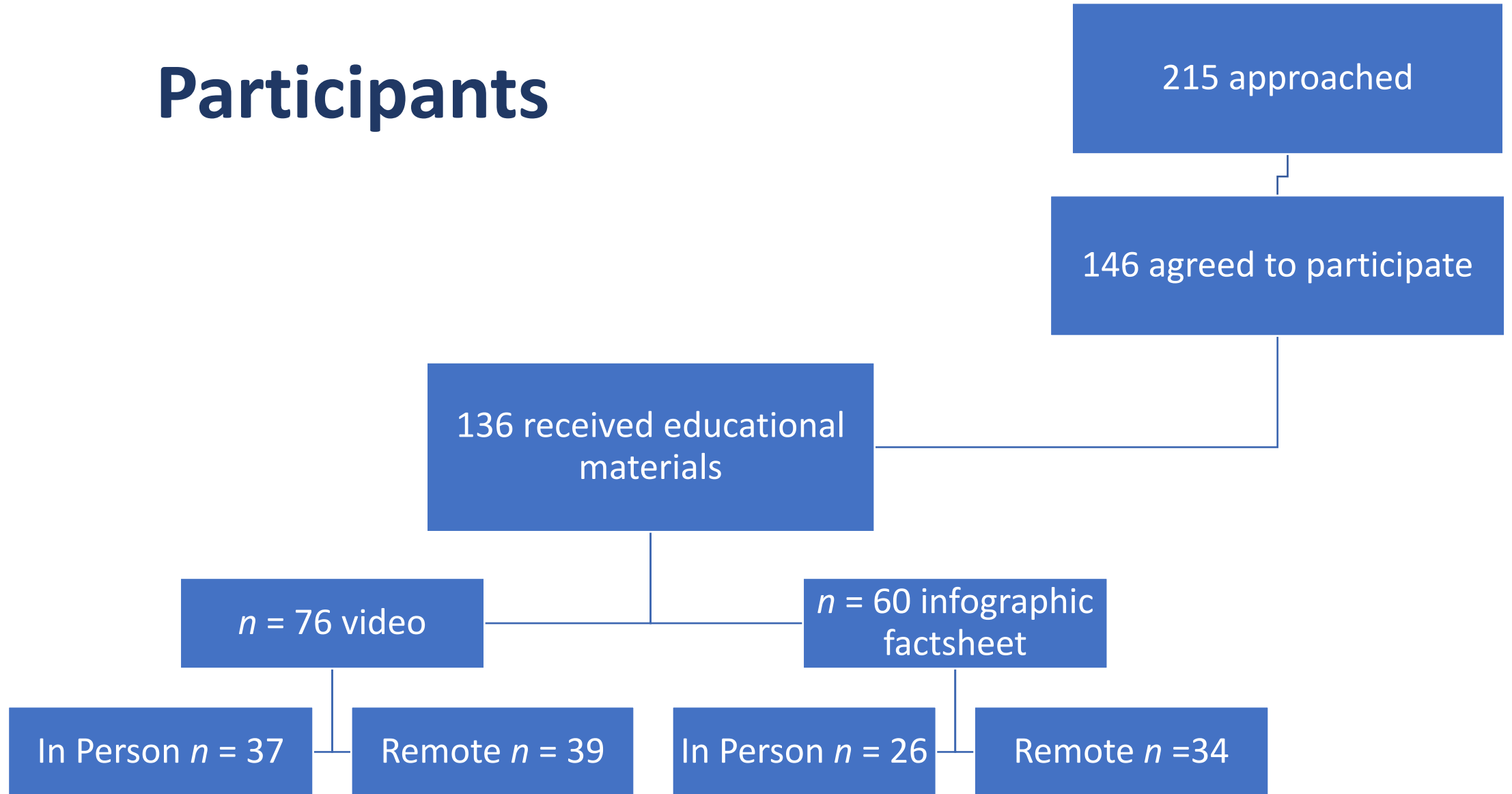
Previous research on cCMV education

- Passive education in the form of infographic posted in clinics found no difference in knowledge or prevention behaviors (Weber et al., 2022)
- RCT of digital education showed change in cCMV knowledge and hygiene behaviors (Calvert et al., 2021)
- RCT of factsheet or video education improved knowledge and motivation to practice behaviors (Price et al., 2014)

Study Design

- Pre/Post-Test Randomized into Education Types
 - Education Varied by Video vs. Print
 - Education Varied by Remote vs. In-Person

Participants



Participant Demographics

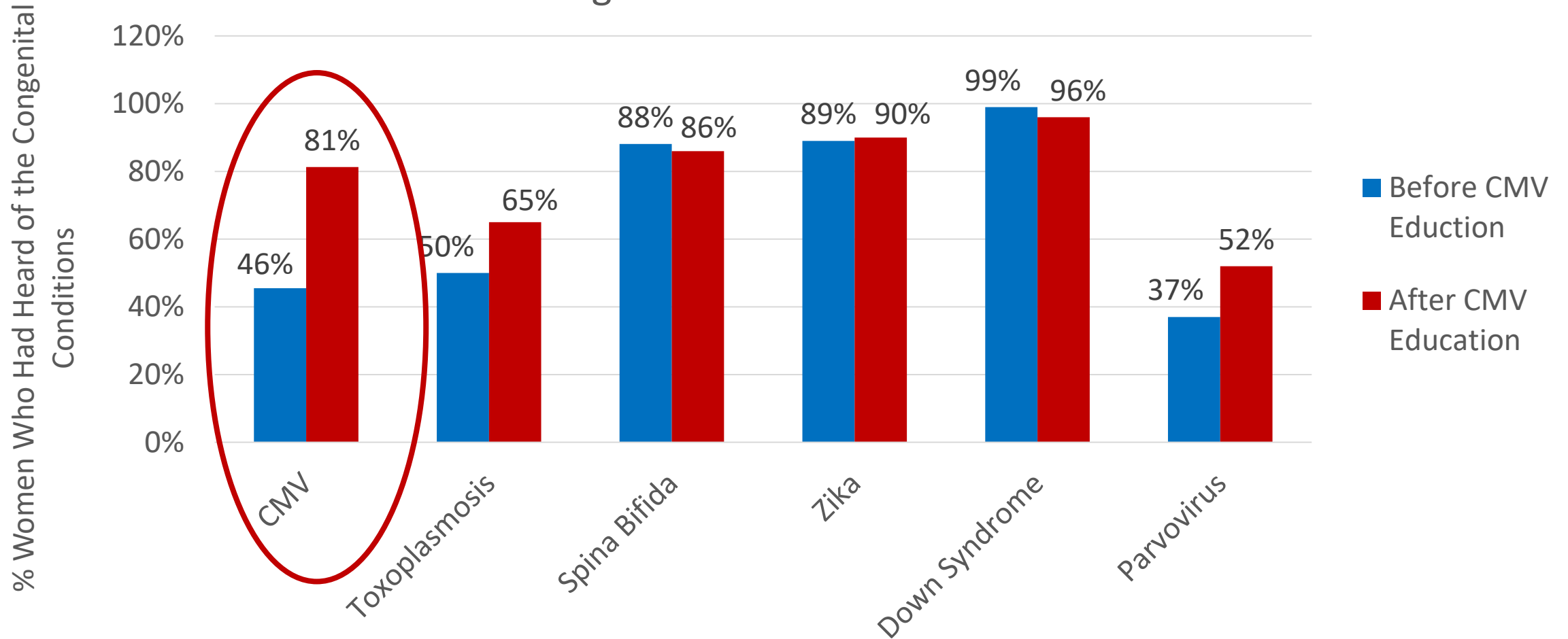
- 72% White, non-Latina
- 16% Latina
- 6% Asian
- 2% Black/African American

- 50% first pregnancy

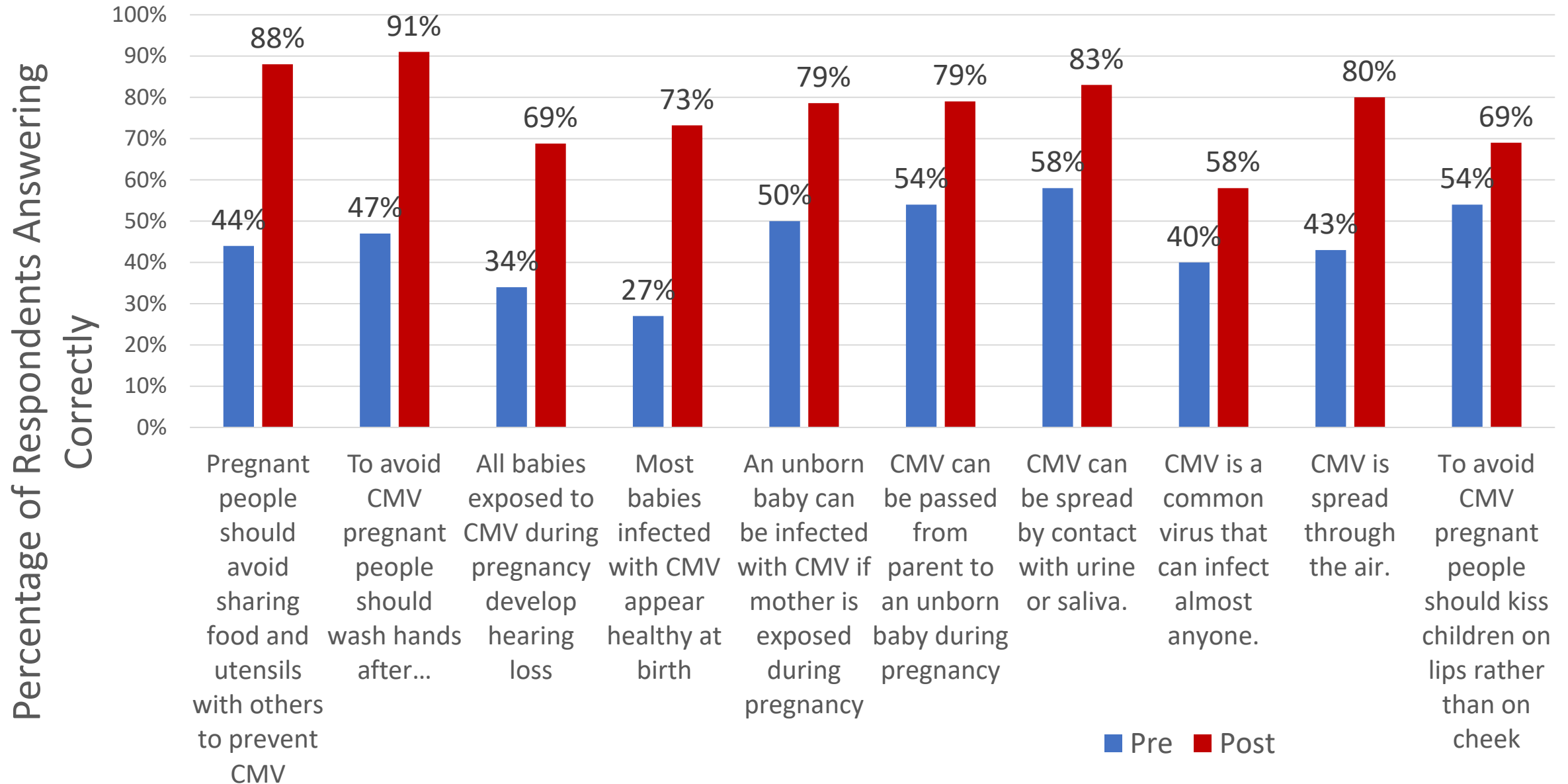
- Well-Educated (69% college degree or higher)

cCMV Awareness was low

Awareness of Congenital Conditions Before and After cCMV Education

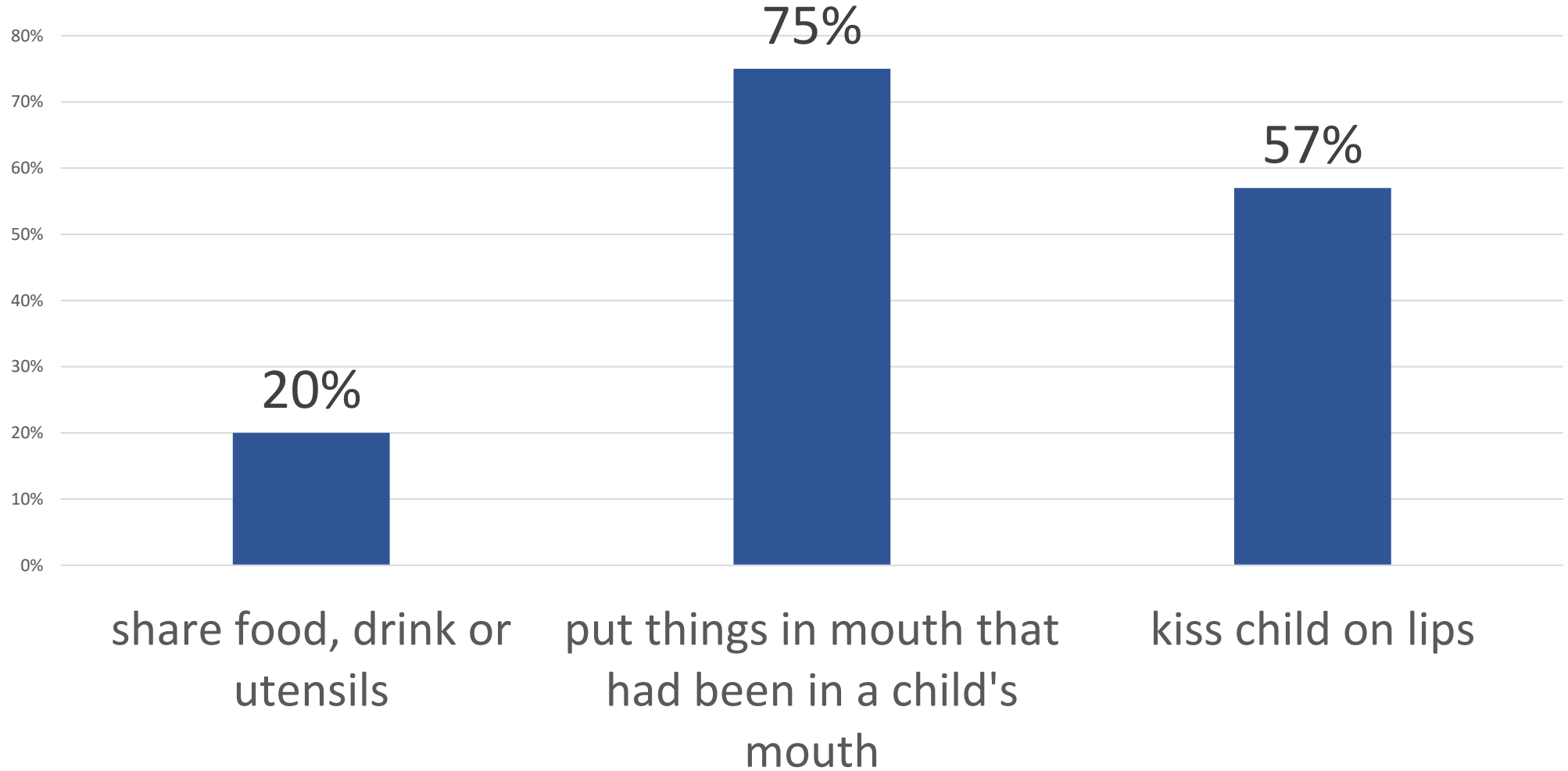


Knowledge of cCMV Improved After Education

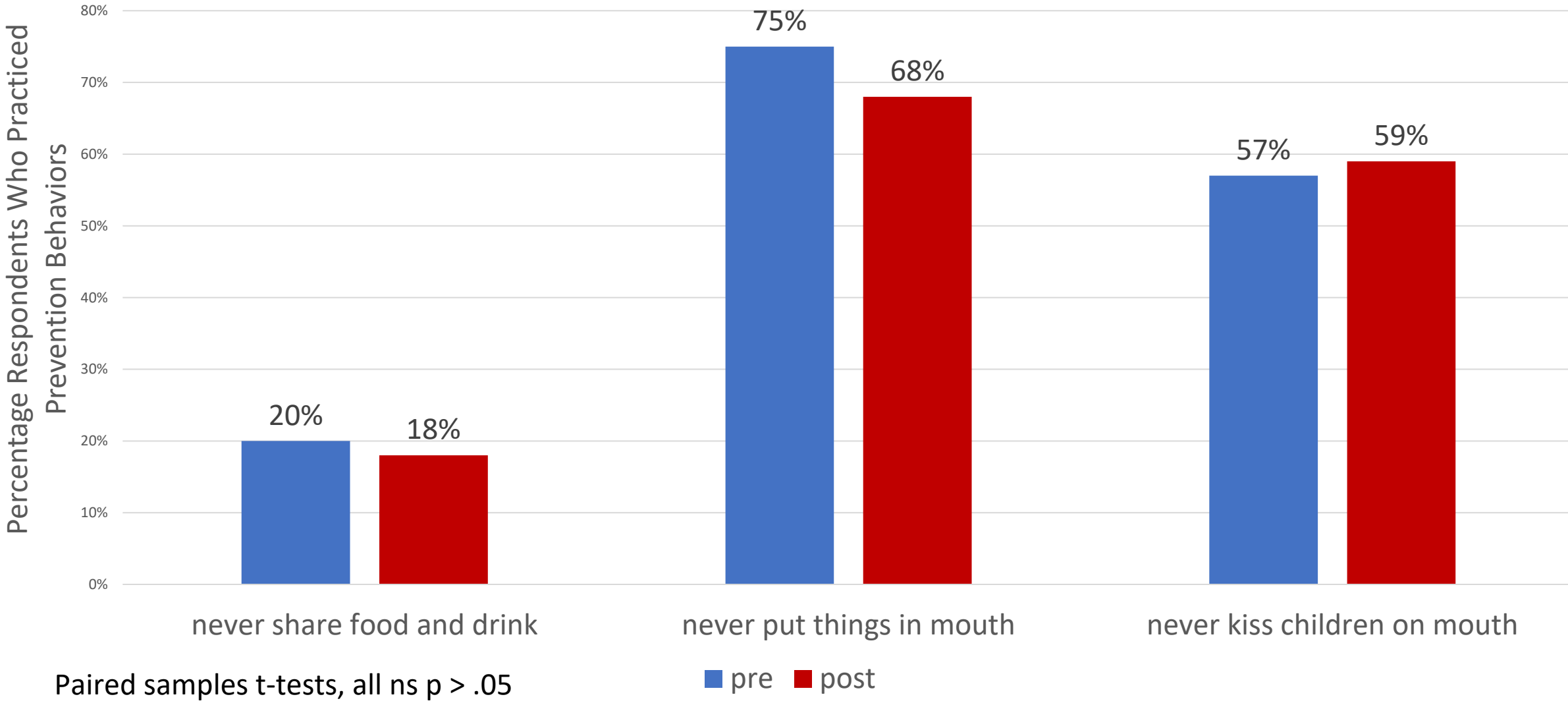


Oral Exposure Behaviors Were Relatively Common Before Educational Intervention

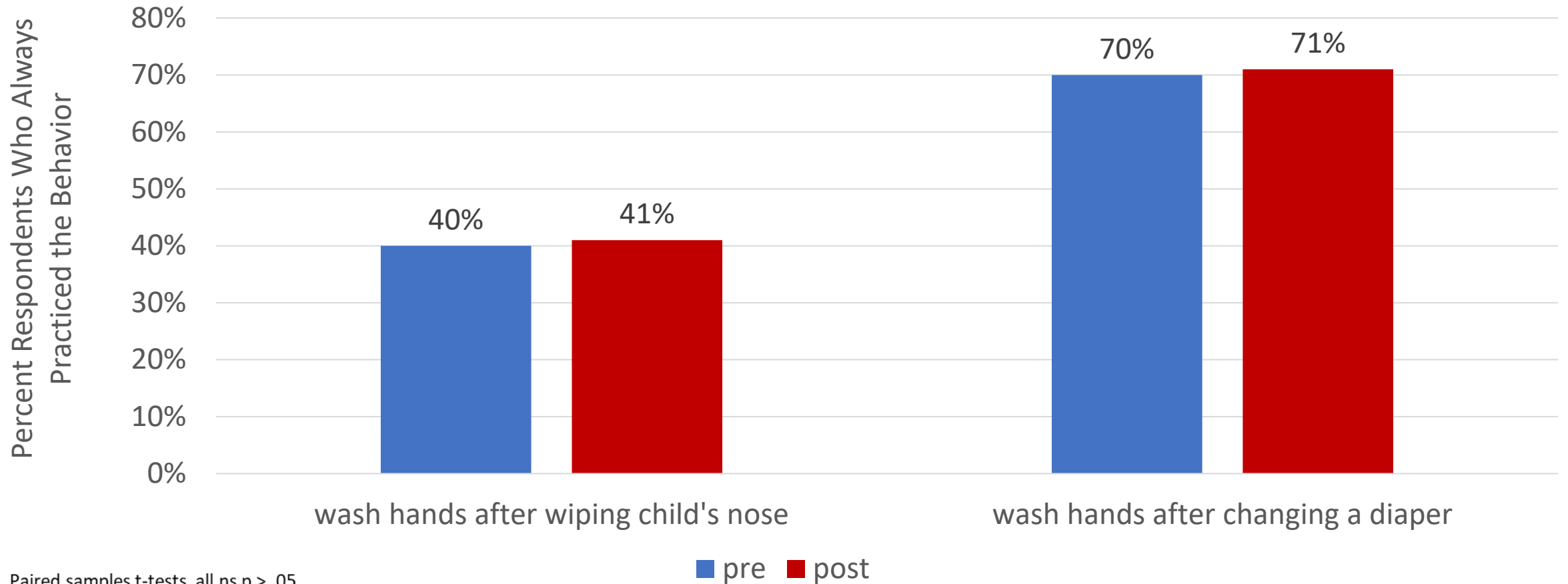
Percentage of Women Who Never Practiced Behavior



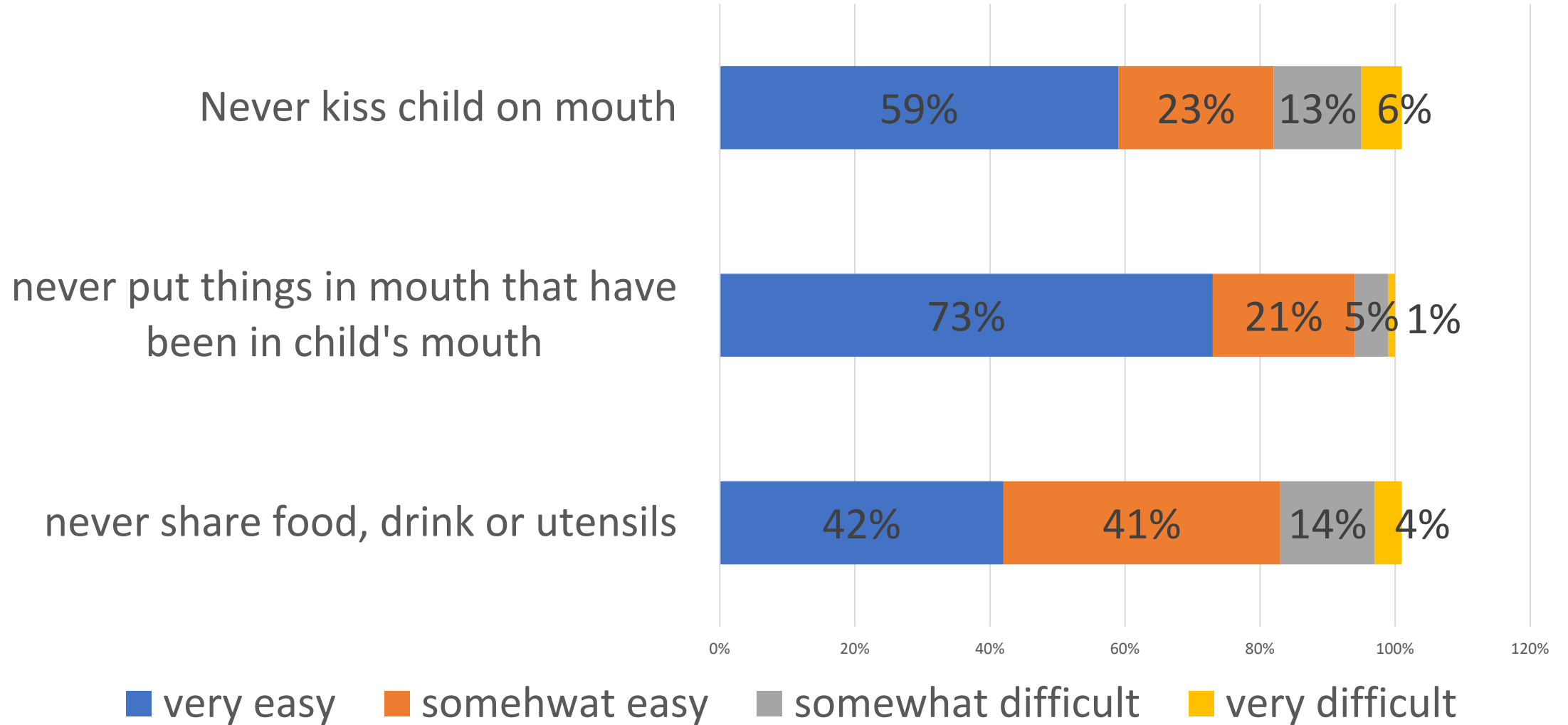
Prevention Behaviors Were More Difficult to Change



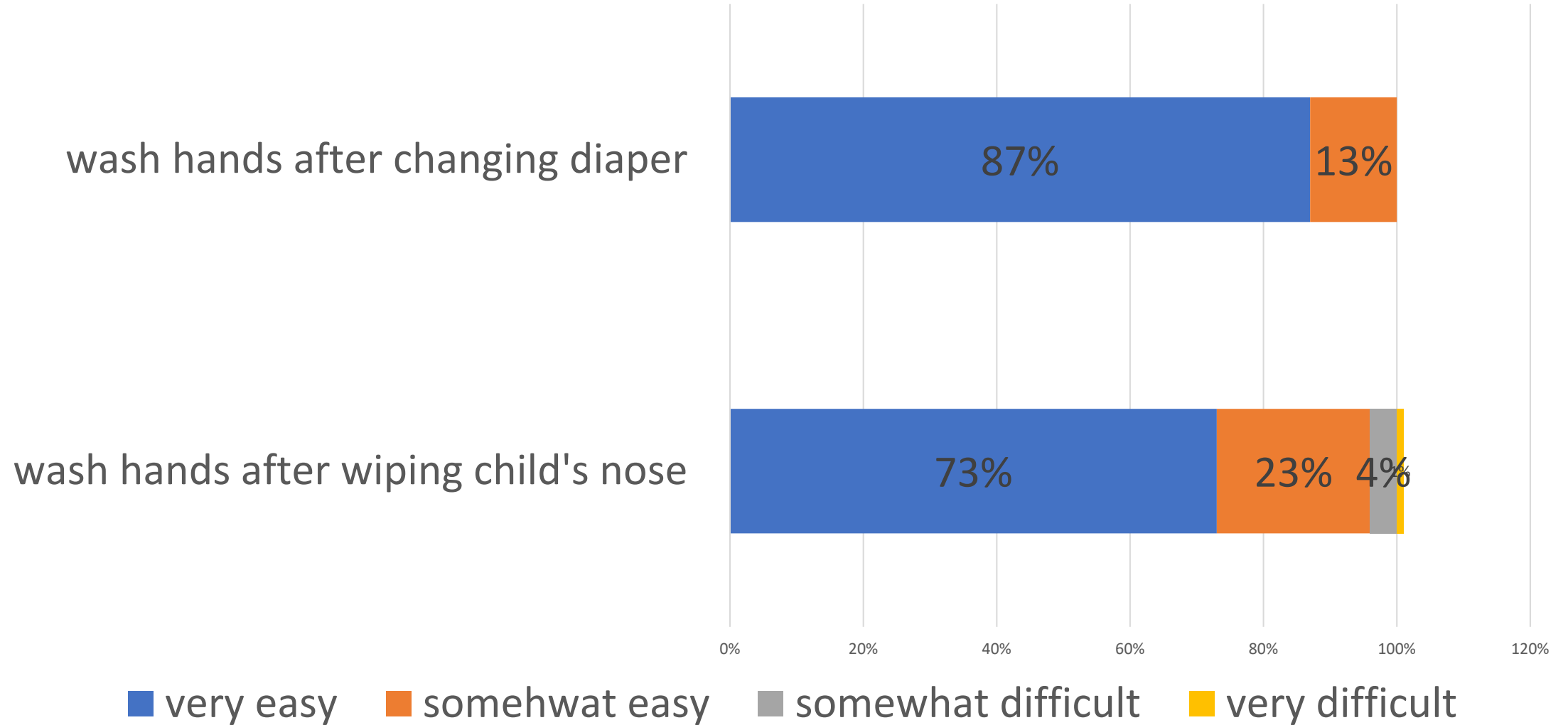
Hygiene Behaviors Did Not Improve



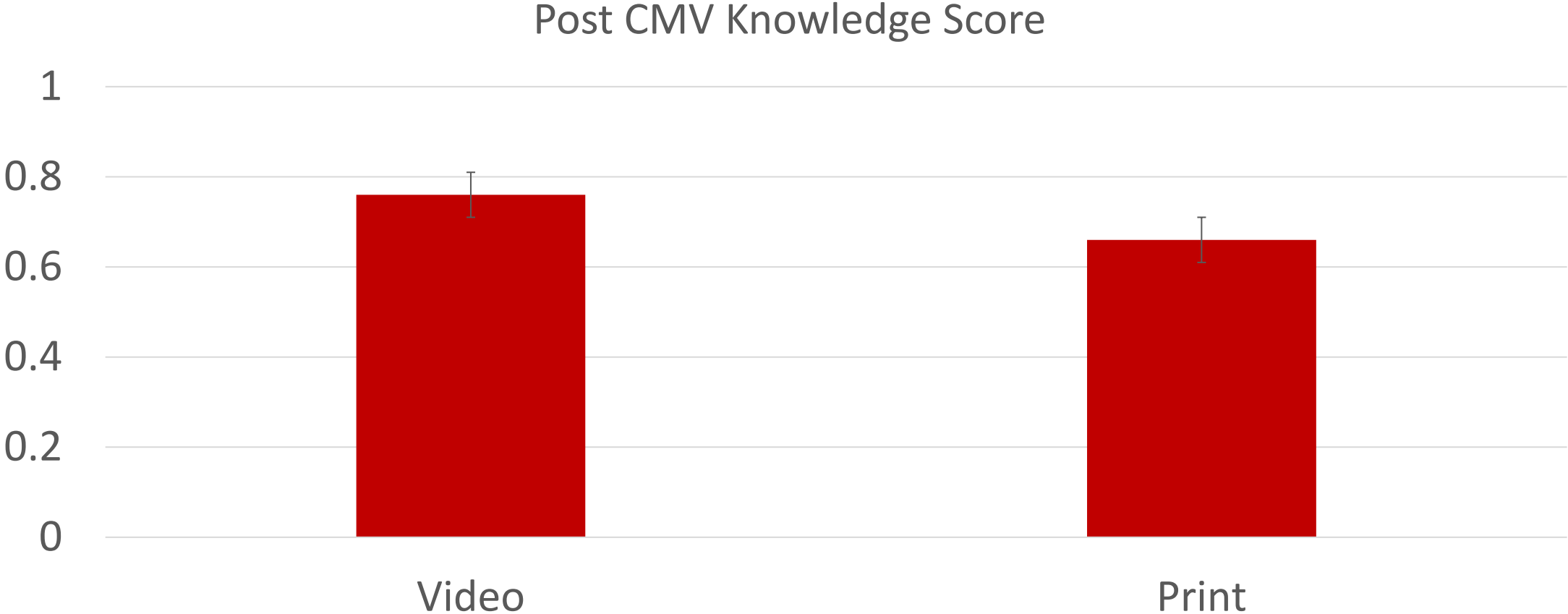
Ease of Avoiding Oral Exposures



Ease of Practicing Hygeine Behaviors

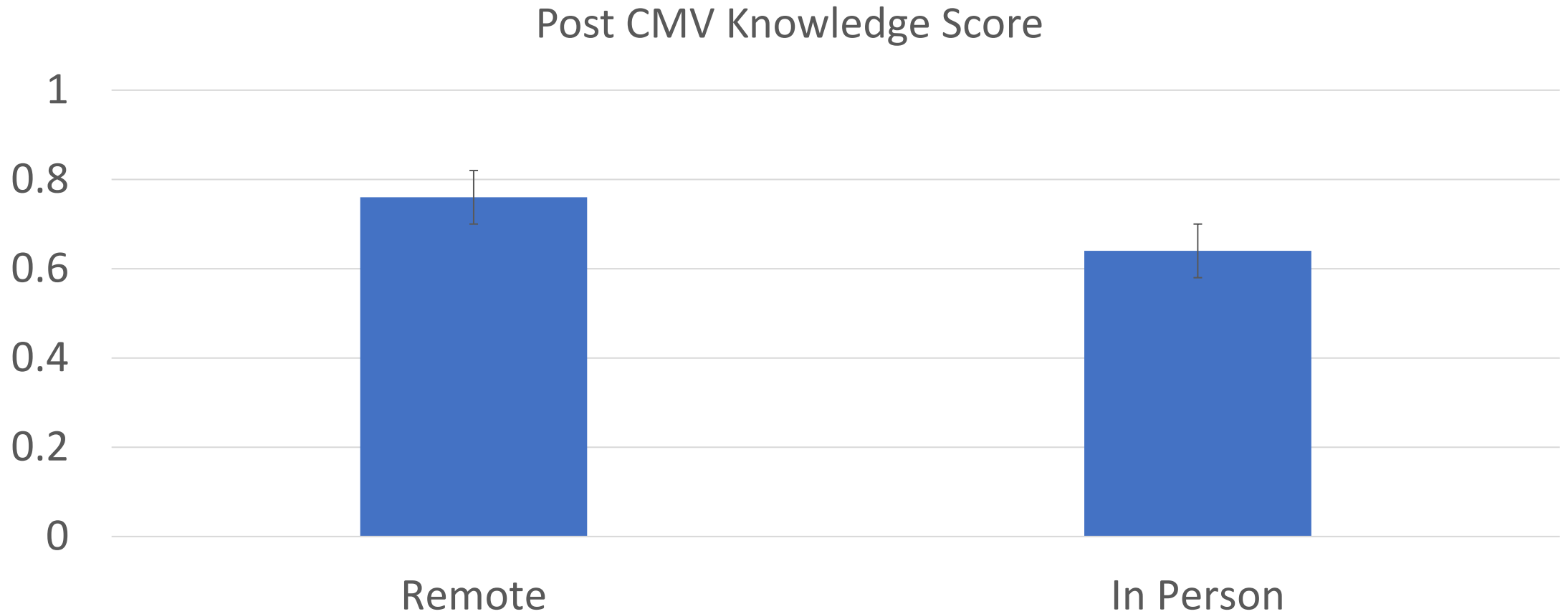


Video Format Improved Knowledge More than Print Format



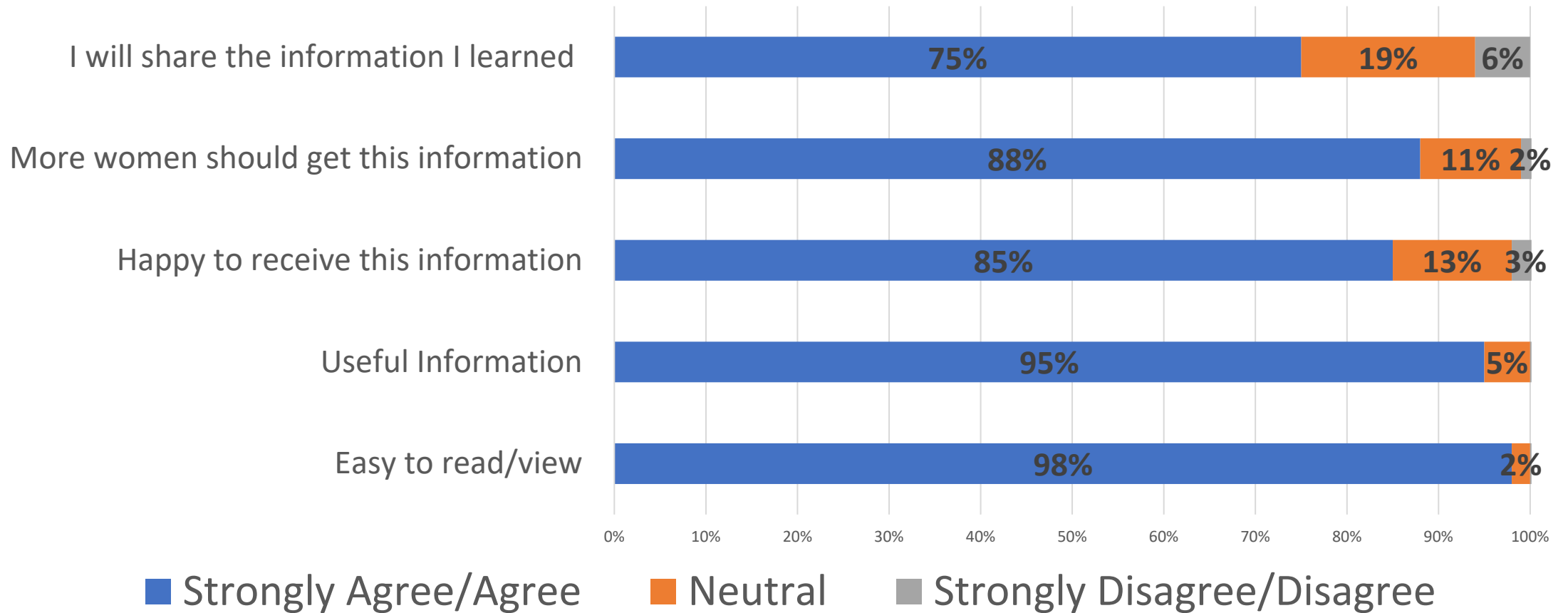
$F(1,97) = 4.10, p < .05$

Remote Delivery Was More Effective Than In- Person Delivery



$F(1,97) = 9.39, p < .01$

Participants perceived the educational materials favorably



Limitations and Future Directions

1

Reach a more
diverse
population

2

Identify the
barriers to
behavior change

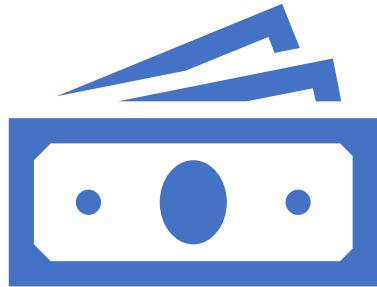
3

Adapt
educational
toolkit to cultural
context

VIDEO for Education Intervention

- <https://vimeo.com/learn/genetics/review/429807656/3ed139ee4c>

Acknowledgements



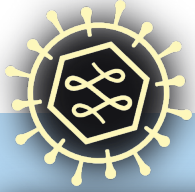
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WHAT YOU SHOULD KNOW ABOUT CMV



CMV stands for Cyto-megalo-virus

CMV IS A COMMON INFECTION

While the virus is mostly harmless for children and adults, **CMV can cause severe health problems if babies are infected while they are still in the womb.**

CMV SYMPTOMS

About 10% of babies born with CMV have symptoms.

COMMON SYMPTOMS:

- hearing loss
- intellectual disability
- low blood platelet levels
- vision loss
- small size
- rash
- liver problems
- seizures

CONGENITAL CMV CAN BE PREVENTED

If you are pregnant or planning on becoming pregnant, you can lower your risk of getting CMV by not letting any saliva or urine from any child get into your mouth.

WAYS TO LOWER YOUR RISK OF GETTING CMV



Don't share food or drink with your child.



Don't put a pacifier or your child's utensils into your mouth.



Kiss your child on the forehead instead of the mouth.



Wash your hands for 20 seconds with soap and water AFTER:

- Changing your child's diapers
- Feeding your child
- Touching your child's toys
- Touching your child's face, including after wiping their nose

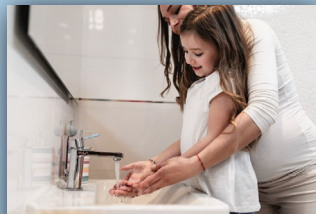
These good habits can help protect you from other kinds of viruses too.



When a pregnant mother gets CMV and passes it to her unborn baby, it is called congenital CMV.



Hearing loss is the most common outcome for babies born with symptomatic CMV.



Soap and water are very good at killing CMV.

You can help by telling others about how to prevent the spread of CMV.