

## Supplemental Materials 1

### Pre-Education Questionnaire

These are questions about you

- How old are you? \_\_\_\_\_ years old
- What is your ethnicity? (please circle one)
  - Somali
  - White/Caucasian, non-Hispanic
  - Black or African American
  - Asian
  - Hispanic
  - Other, please specify \_\_\_\_\_
- Were you born in the United States? (please circle one Yes / No)
  - Yes
  - No
    - If no, what country were you born in? \_\_\_\_\_
- How many children do you have? \_\_\_\_\_
  - If you have children, how old are they? (Please write ages)?  
\_\_\_\_\_  
\_\_\_\_\_
- Do your children currently go to daycare? (please circle one Yes / No)
  - Yes
  - No
- What is your family's estimate yearly income? (please circle one)
  - \$0-50,000
  - \$501,0010-100,000
  - \$1001,0010-150,000
  - \$1501,0010-200,000
  - \$2001,0010-250,000
  - greater than \$250,000
- What is the highest education degree completed? (please circle one)
  - Less than high school
  - Some high school
  - High school graduate
  - Associate degree/some college
  - College graduate or more
  - Post graduate degree
- Have you ever worked as a healthcare professional? (please circle one Yes / No)
  - Yes
  - No
- Have you ever worked as a daycare worker? (please circle one Yes / No)
  - Yes
  - No

These are questions about infections and other conditions that can affect babies developing in the womb or who have just been born

- Have you heard of these infections or conditions? (please circle yes or no)
  - Cytomegalovirus (CMV) infection                      yes      no





- Feeding a young child  
Yes No
- Wiping a child's nose or drool  
Yes No
- Handling children's toys  
Yes No

To prevent CMV infection:

- I should not share food, drinks or eating utensils used by young children  
Yes No
- I should not put a child's pacifier in my mouth  
Yes No
- I should not share a toothbrush with a young child  
Yes No
- I should avoid saliva when kissing a child and not kiss a child on the mouth  
Yes No
- I should clean toys, countertops and any surface that comes into contact with children's urine and saliva  
Yes No

These are questions asking about your current hygiene practices at home. Please be honest, we want to know what you do and think. These questions are anonymous.  
(Please circle a number 1-5. 1 - means I do not do that. 3 - means I do that half of the time. 5 - means I do that all the time)

- I wash my hands after:
  - Changing diapers  
1                    2                    3                    4                    5
  - Feeding your child/children  
1                    2                    3                    4                    5
  - Wiping your child's nose or drool  
1                    2                    3                    4                    5
  - Handling your child/children's toys  
1                    2                    3                    4                    5
- I avoid saliva when kissing my child  
1                    2                    3                    4                    5
- I kiss my child on the mouth  
1                    2                    3                    4                    5
- I put my child's pacifier in my mouth  
1                    2                    3                    4                    5
- I share a toothbrush with my child  
1                    2                    3                    4                    5
- I clean toys, countertops and any surface that comes into contact with children's urine and saliva  
1                    2                    3                    4                    5

These questions are about your willingness to increase your personal hygiene to prevent CMV infection. Please be honest, we want to know what you do and think.  
(Please circle a number 1-5. 1 - means I do not think it important or I am not willing to do that. 3 - means I feel neutral about this. 5 - means I think that is very important and I plan to do that in the future)

- It's important to prevent CMV transmission  
1            2            3            4            5
- I am willing to change my behavior to prevent CMV transmission  
1            2            3            4            5
- I am willing to wash my hands after changing diapers, feeding children, having contact with urine or saliva  
1            2            3            4            5
- I am willing to not share food, drinks or eating utensils with young children  
1            2            3            4            5
- I am willing to avoid urine and saliva from young children  
1            2            3            4            5
- I am willing to avoid kissing my young child on the mouth  
1            2            3            4            5

# Cytomegalovirus Educational Handout

## 1. What is Cytomegalovirus (CMV)?

Cytomegalovirus (CMV) is a common virus that most people are infected with at some point during their life. Once a person is infected with CMV it stays in the body for life. Usually, the immune system is able to control the infection and most people do not show signs or symptoms of infection. However, CMV can cause a serious infection in individuals with weakened immune systems and babies infected with CMV while in the womb (congenital CMV). About 1 in 200 babies each year are born with congenital CMV and 20% of babies born with congenital CMV will show signs of the infection and have long term health problems.

Congenital CMV can cause the following problems at birth:

- Microcephaly (small head)
- Enlarged liver and spleen
- Fetal growth restriction (small size at birth)
- Chorioretinitis (inflammation in the eye)
- Low platelets
- Hepatitis (liver inflammation)
- Hearing loss
- Seizures

Babies born with congenital CMV can have the following long term health problems:

- Hearing loss
- Vision loss
- Seizures
- Intellectual disability
- Lack of coordination, problems using muscles or weakness

## 2. How is CMV transmitted and who is at risk?

CMV is present in saliva, urine, tears, and breast milk. It is transmitted through direct contact with these fluids (changing diapers and sharing eating utensils, for example) and sexual contact. Young children are commonly infected with CMV and high amounts of virus are present in their urine and saliva. Anyone who is pregnant or has a weakened immune system is at risk for CMV infection. Daycare workers and individuals that work closely with children are at high risk for CMV infection due to increased exposure to children's urine and saliva.

## 3. What are the signs and symptoms of maternal CMV infection?

CMV infection often causes no symptoms, but if it does, the symptoms are similar to a cold:

- Fever
- Sore throat
- Tiredness/fatigue
- Swollen glands

Rarely, CMV can cause mononucleosis or hepatitis.

#### **4. How can I decrease my risk of CMV infection and congenital CMV?**

The best way to decrease your risk of CMV infection and congenital CMV is to minimize exposure to the fluids mentioned above. Here are ways you can minimize your risk:

- Wash your hands with soap and water for 15-20 seconds after changing diapers, feeding young children, or wiping a young child's nose
- Do not share food, drink or eating utensils with young children
- Do not put your child's pacifier in your mouth
- Do not share a toothbrush with your child
- Avoid contact with saliva when kissing a child
- Clean toys, countertops and other surfaces that come into contact with children's urine or saliva

#### **5. Why is prevention of congenital CMV important?**

Prevention of congenital CMV is important because we do not have a vaccine for CMV and there are no proven effective treatments for congenital CMV. The only way to prevent congenital CMV is to prevent CMV infection during pregnancy.

#### References:

- CDC Cytomegalovirus (CMV) and congenital CMV infection <https://www.cdc.gov/cmvcongenital-infection.html> ; <https://www.cdc.gov/cmvc/>
- Cytomegalovirus, Parvovirus B19, Varicella Zoster and toxoplasmosis in Pregnancy. ACOG Practice Bulletin Number 151 June 2015
- Diagnosis and antenatal management of congenital cytomegalovirus infection. SMFM Consult Series #39 June 2016



- Do you think infections you have during pregnancy can pass to your unborn baby?  
yes                      no
- Have you been vaccinated with all recommended vaccines?  
yes                      no
- If you have children, have they been vaccinated with all recommended vaccines?  
yes                      no
- Are you willing to be vaccinated?  
yes                      no

These are questions about how cytomegalovirus (CMV) can affect the baby developing in the womb and just after it is born (please circle yes, no or don't know)

- Can CMV cause hearing loss?                      yes      no      don't know
- Can CMV cause mental retardation/intellectual disability?      yes      no      don't know
- Can CMV cause jaundice?                      yes      no      don't know
- Can CMV cause seizures?                      yes      no      don't know
- Can CMV cause microcephaly (small head)?                      yes      no      don't know
- Can CMV cause death?                      yes      no      don't know

These are questions about the spread of CMV (please circle yes or no)

- I can get CMV from unprotected intercourse  
Yes      No
- Children that attend daycare can carry CMV  
Yes      No
- CMV is present in urine and saliva  
Yes      No
- If I have an active CMV infection, I can pass it to my baby through breast milk?  
Yes      No

These are questions about the symptoms of CMV infection (please circle yes, no or don't know)

- Are flu-like symptoms associated with adult CMV infection?                      yes      no  
don't know
- Is fever associated with adult CMV infection?                      yes      no  
don't know
- Are muscle aches associated with adult CMV infection?                      yes      no  
don't know
- Is sore throat associated with adult CMV infection?                      yes      no  
don't know
- Is weakness associated with adult CMV infection?                      yes      no  
don't know



- I avoid saliva when kissing my child  
1                    2                    3                    4                    5
- I kiss my child on the mouth  
1                    2                    3                    4                    5
- I put my child's pacifier in my mouth  
1                    2                    3                    4                    5
- I share a toothbrush with my child  
1                    2                    3                    4                    5
- I clean toys, countertops and any surface that comes into contact with children's urine and saliva  
1                    2                    3                    4                    5

These are items about how you feel about the CMV handout and recommended hygiene practices. Please be honest, your opinion matters to us.

For the following items, please circle a number 1-5. 1 - means I felt the recommendation was very difficult to do and I could not do it. 3 - means I felt neutral about the recommendation. 5 - means I the recommendation was easy to do and I was able to do it

- Overall, I felt like the recommended hygiene practices were easy to do everyday  
1                    2                    3                    4                    5
- How easy did you find did you feel about these specific hygiene recommendations?
  - Washing your hands after changing diapers  
1                    2                    3                    4                    5
  - Washing your hands after feeding your child/children  
1                    2                    3                    4                    5
  - Washing your hands wiping your child's nose or drool  
1                    2                    3                    4                    5
  - Washing your hands handling your child/children's toys  
1                    2                    3                    4                    5
  - Avoiding saliva when kissing your child  
1                    2                    3                    4                    5
  - Not kissing your child on the mouth  
1                    2                    3                    4                    5
  - Not sharing a toothbrush with your child  
1                    2                    3                    4                    5
  - Cleaning toys, countertops and any surface that comes into contact with children's urine and saliva  
1                    2                    3                    4                    5

For the following questions please circle either yes or no

- The CMV handout was easy to read                    yes    no
- The CMV handout provided useful information                    yes    no
- I'm happy I read the CMV handout                    yes    no
- I think more pregnant women should receive the CMV handout                    yes    no