

Awareness of Cytomegalovirus (CMV) Among Postpartum Mothers: Education Needed!



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Abstract

Background: Congenital cytomegalovirus (CMV) infection is the leading cause of non-genetic sensorineural hearing loss and affects approximately 0.5%-1% of all live births in the United States. Despite its substantial burden, maternal awareness of congenital CMV disease is limited. In addition, there is no information on CMV awareness among postpartum women who ultimately would consent for CMV newborn screening.

Objective: To determine the proportion and characteristics of postpartum women who had knowledge of CMV in an academic medical center in Columbus, OH.

Design/Methods: From May - December 2019, 276 postpartum women who delivered a newborn at the Ohio State University Wexner Medical Center, Columbus, OH were asked if they had prior knowledge of CMV. Eligible mothers had delivered an infant who was admitted to the Newborn Nursery, were ≥ 35 weeks' gestational age, and had no signs of congenital CMV infection. These mothers had consented for enrollment into the University of Alabama's Collaborative Antiviral Study Group multicenter study on CMV screening (saliva) of asymptomatic infants. Pertinent demographic and clinical data were collected and subsequently managed using REDCap electronic data capture tools hosted at Nationwide Children's Hospital, Columbus, OH. Statistical analyses were performed using GraphPad Prism.

Results: 505 eligible infants were born during the study period and 276 (55%) of the mothers were asked about their awareness of CMV infection. Of the 276 mothers (62%, white; 24%, Black; 3%, Asian; 0.4%, Native Hawaiian or Pacific Islander; 3%, biracial; 8%, not known), 30 (10%) had prior knowledge of CMV. Mothers who were aware of CMV did not differ from mothers who did not know about CMV in primigravida status (12/30 [40%] vs. 84/246 [34%], $P=.55$) or age (median, IQR; 33 years [29-35] vs. 31 years [26-34], $P=.11$). All infants had a normal physical examination, and none had congenital CMV infection.

Conclusion(s): Among postpartum mothers who consented to saliva screening of their newborns for congenital CMV infection, only 10% were previously aware of CMV. Such a knowledge gap should be addressed to better inform both universal and targeted newborn CMV screening among postpartum mothers.

Background

- Congenital CMV is the leading cause of non-genetic sensorineural hearing loss.
- CMV affects ~0.5%-1% of all live births in the United States.
- Maternal awareness of congenital CMV disease is limited.
- Limited information exists on CMV awareness among postpartum women who ultimately would consent for newborn CMV screening.

Objective

- To determine the proportion and characteristics of postpartum women who had knowledge of CMV in an academic medical center in Columbus, OH

Methods

- From 5/2019-12/2019, postpartum women at Ohio State University Wexner Medical Center were asked about prior knowledge of CMV (Figure 1).
- Eligibility criteria:
 - Infant was admitted to the newborn nursery
 - Gestational age ≥ 35 weeks
 - No signs of congenital CMV infection
- Mothers had consented to enroll newborn in the University of Alabama's Collaborative Antiviral Study Group multicenter study on CMV screening of asymptomatic infants.
- Demographic and clinical data collected.
- Data managed through REDCap and statistical analyses performed using GraphPad Prism.

Figure 1. Maternal Questionnaire

Maternal CMV Awareness

Name (Mother): _____

Birth Date: _____

1) "Do you have any prior knowledge, or have you ever heard of the virus called cytomegalovirus or CMV?"
Yes No

2) Do you work outside the home?
Yes No

3) If yes, what do you do?
Yes No

4) Is your job related to health care?
Yes No

5) Do you work in childcare?
Yes No

6) To your knowledge, have you ever been tested for CMV?
Yes No

7) If yes, positive?
Yes No N/A

8) Highest level of education completed?
 <7th Grade
 7-9th Grade
 10-12th Grade
 Partial College
 College Degree
 Graduate Degree
 Unknown or decline to answer

Results

- During the 8-month study period, 276 (55%) mothers of 505 eligible newborns were asked about their awareness of CMV.
- 246 (90%) of the 276 mothers had no prior knowledge of CMV (Figure 2).
- Mothers who were aware of CMV did not differ from mothers who did not know about CMV in primigravida status (12/30 [40%] vs. 84/246 [34%], $P=.55$) or age (median, IQR; 33 years [29-35] vs. 31 years [26-34], $P=.11$).
- All infants had a normal physical examination.
- No infants had congenital CMV infection.

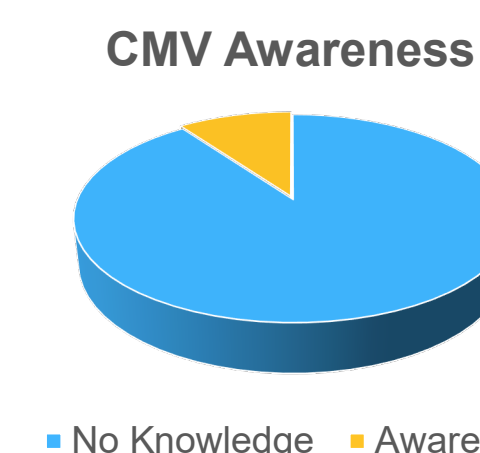
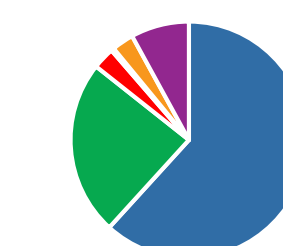


Figure 2. Of the mothers sampled, 90% had no prior knowledge of CMV.

Race of Mothers



- White
- Black
- Asian
- Native Hawaiian or Pacific Islander
- Biracial
- Unknown

Figure 3. Of the 276 mothers, 62% were white, 24% black, 3% Asian, 0.4% Native Hawaiian or Pacific Islander, 3% biracial, and 8% unknown.

Conclusions

- Among postpartum mothers who consented to saliva screening of their newborns for congenital CMV infection, only 10% were previously aware of CMV.
- Such a knowledge gap should be addressed to better inform both universal and targeted newborn CMV screening among postpartum mothers.