



**DETERMINING THE EFFICACY OF EDUCATIONAL INTERVENTIONS IN CHANGING PREGNANT WOMEN'S HYGIENE BEHAVIORS TO PREVENT CONGENITAL CYTOMEGALOVIRUS (cCMV)**

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**Abstract**

**Introduction/Background:** Congenital disabilities are commonly caused by teratogens such as viruses. Drugs, or genetic mutations (Cannon et al, 2012). It would be natural to expect that more common conditions that cause birth defects would also be more well-known. Yet that appears not to be the case with congenital cytomegalovirus (cCMV) which is prevalent but not very well-known. Congenital Cytomegalovirus is a common virus that can potentially foster congenital disabilities as well as life threatening conditions in utero. Oftentimes, infants do not display symptoms of disability at birth but cCMV symptoms emerge later, making it difficult to determine the root cause for disability (Bergevin et al, 2015). Symptomatic CMV cases account for approximately 10% of all CMV cases (Muldoon et al, 2017). A particularly common effect in infants exposed to cytomegalovirus in utero is sensorineural hearing loss (Din et al, 2011). A lack of awareness of cCMV and the lack of knowledge of the preventative measures to stop the spread of cCMV from a seropositive mother to their child, causes Congenital Cytomegalovirus to be a public health issue costing the U.S healthcare system approximately \$4 billion a year (Bergevin et al, 2015). This project aims to determine the efficacy of educational interventions in changing hygiene behaviors (e.g., handwashing, sharing of utensils, exchange of saliva with children) of pregnant women. In doing so, the project will contribute to the awareness of cCMV and determine the effectiveness of educational interventions in preventing cCMV.

**Methods:** A Qualtrics survey of health practices asking questions about the knowledge of CMV as well as hygiene practices was administered at an OB initial visit in the first gestational period. During the initial visit, a video or print condition of CMV education was given. A follow-up survey was administered determining the effectiveness of either the video or print condition in educating pregnant women on CMV. The post survey was administered at the 18-20 weeks. Upon conclusion of data collection, which is currently ongoing, statistical analyses will be conducted in SPSS.

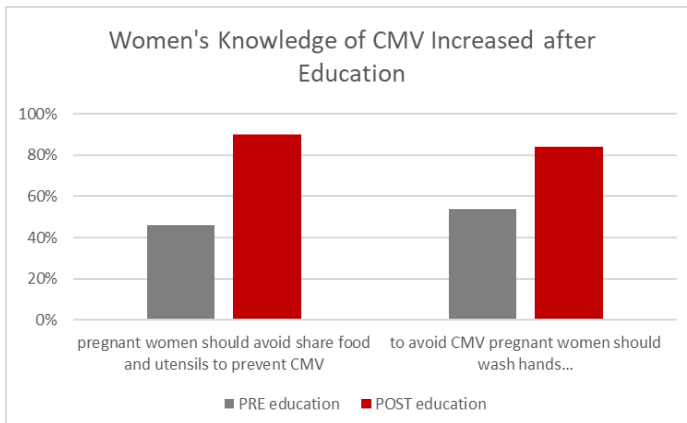


Figure 2 – In the figure above the bar graph indicates the relationship of the increase in knowledge on CMV for the pre and post educational surveys. It gives a representation of an increase in knowledge.

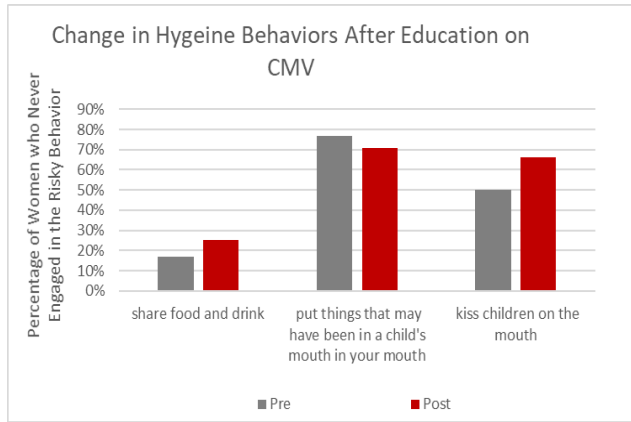


Figure 3 –This figure presents a comparison in the change of hygiene behaviors before and after educational materials were introduced in the pre and post surveys.

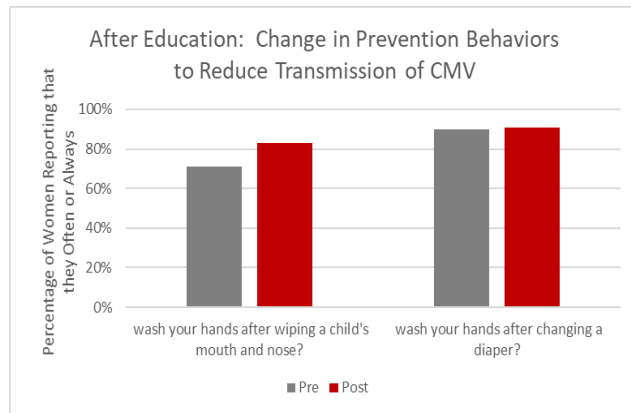


Figure 4 –A representation of the change in prevention of CMV at the pre- and post-educational time periods is shown. This graphical representation indicates a similar relationship to figure 2 in that it represents a graphical representation of changes in hygiene behaviors that can prevent the transmission of CMV.

**Results:** To date, there are preliminary results from the CMV study with the collection of approximately 91 initial visit responses. Descriptive statistics suggest that the educational materials are increasing awareness of cCMV (Figure 2). Hygiene behaviors have been changed because of education, potentially preventing the transmission of CMV through the exchange of saliva or bodily fluids (Figure 3 & Figure 4). At the conclusion of registering 100 patients and concluding follow-ups, statistical analysis will extrapolate significant relationships between video and print conditions in determining educational efficacy in changing hygiene behaviors.

**Conclusion:** The study is still enrolling participants and completing data collection. Although knowledge of congenital cytomegalovirus increased after education, it appears more difficult to change hygiene behaviors in women, especially with food sharing. There are other underlying factors that potentially contribute to the behaviors of sharing food in preventing the spread of CMV, Food sharing acts such as kissing on the mouth and affection vary depending on their cultural significance. Future analyses will examine whether education offered remotely is as effective as education offered in person in the clinic.

## References

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