An Appeal to Incorporate Hand Hygiene Education into Standard Elementary School Curriculum

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BACKGROUND:

Student absenteeism is a persistent public health issue with serious consequences.¹ The Center for Disease Control and Prevention reports that 160 million school days are lost each year due to infectious illnesses.² Good hand hygiene practice is one of the most effective ways to prevent illness that can lead to absenteeism among school-aged children, yet few schools have a formal education program as a preventative strategy.¹ Does implementing this strategy promote behavioral change thereby increasing engagement in appropriate hand hygiene practices, while decreasing overall illness related absenteeism in schools?

METHOD:

A Pilot Hand Hygiene experiment was initiated for 90 second-graders at a Virginia Beach Public School during the regional peak influenza and norovirus season. The experiment was designed to bring awareness and satisfy a scientific module requirement.

- All students cultured dirty hands on general purpose agar plates (with assistance of physicians and a microbiologist).
- Students were equally divided into two groups: hand washing group and sanitizer group.
- Proper hand washing technique was demonstrated and observed.
- Hands were re-cultured after intervention and observed for five days.
- Behavioral change after the experiment was measured via teacher observation survey.
- Absenteeism due to illness was measured pre-intervention & post intervention.

RESULTS:

- (Figure 2).
- hand hygiene intervention (Figure 3).
- likely to cause illness.

CONCLUSION:

Hand Hygiene education is remarkably beneficial, especially in children who are at greater risk of illness.⁴ It is clearly effective in decreasing infectious disease risk as measured through absenteeism, while teaching a life-long skill. Although, it is widely known that compliance with hand hygiene is poor, improving compliance through awareness brings about a positive behavioral change.⁵ Primary school age is the most important for turning proper hygiene rules into behavior.⁶ For the impact as a preventative strategy to be felt, its implementation into elementary school curriculum is warranted.

REFERENCES

- . Wang Z, Lapinksi M, Quilliam E, Jaykus LA, Fraser, A. The effect of hand hygiene interventions on infectious disease-associated absenteeism in elementary schools: a systematic literature review. American Journal of Infection Control. 2017; 45(6):682-689. doi: 10.1016/j.ajic.2017.01.018.
- handwashing/index.html
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 \checkmark Overall, student observation of decreased microbial growth was an average of 91% (Figure 1).

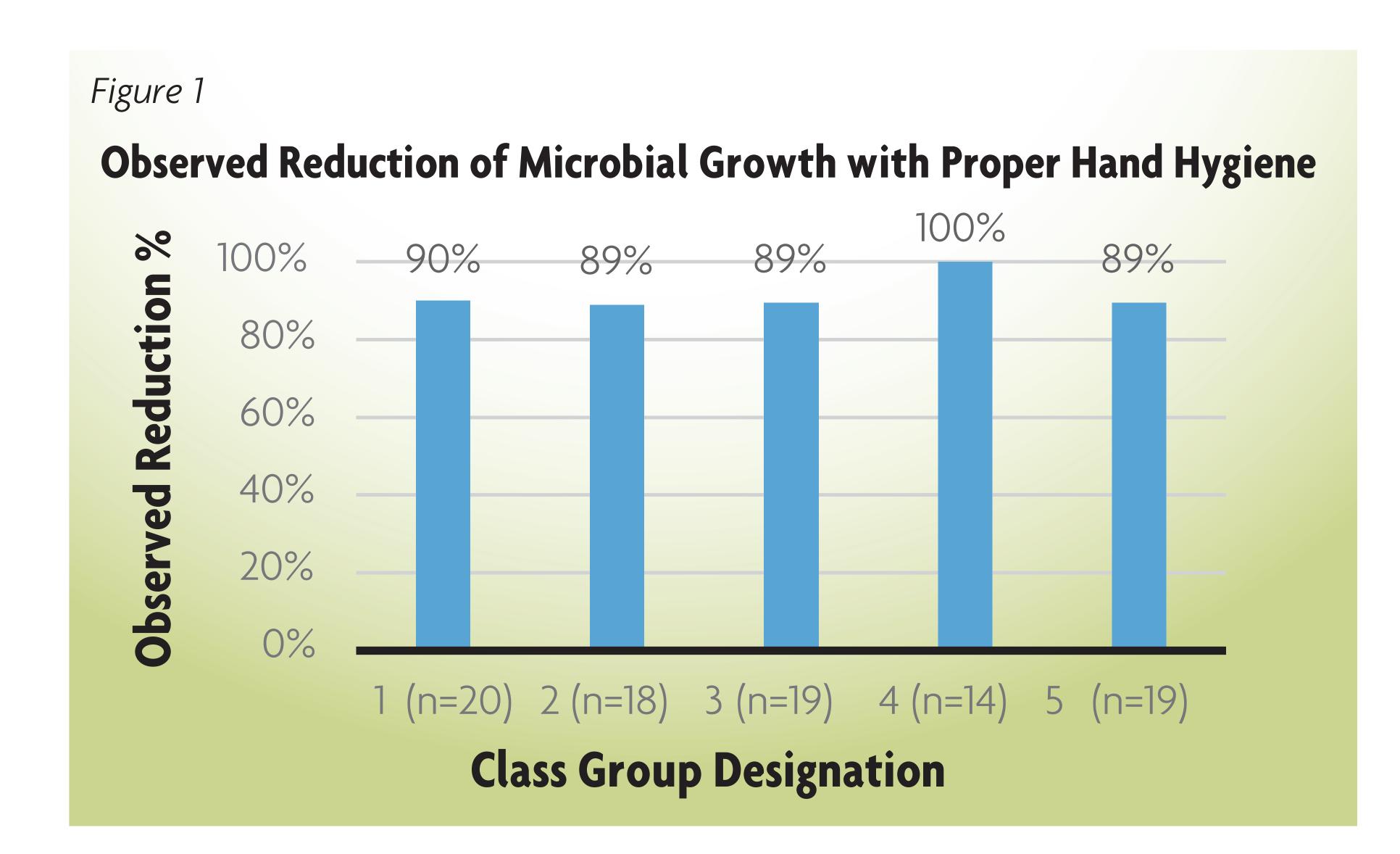
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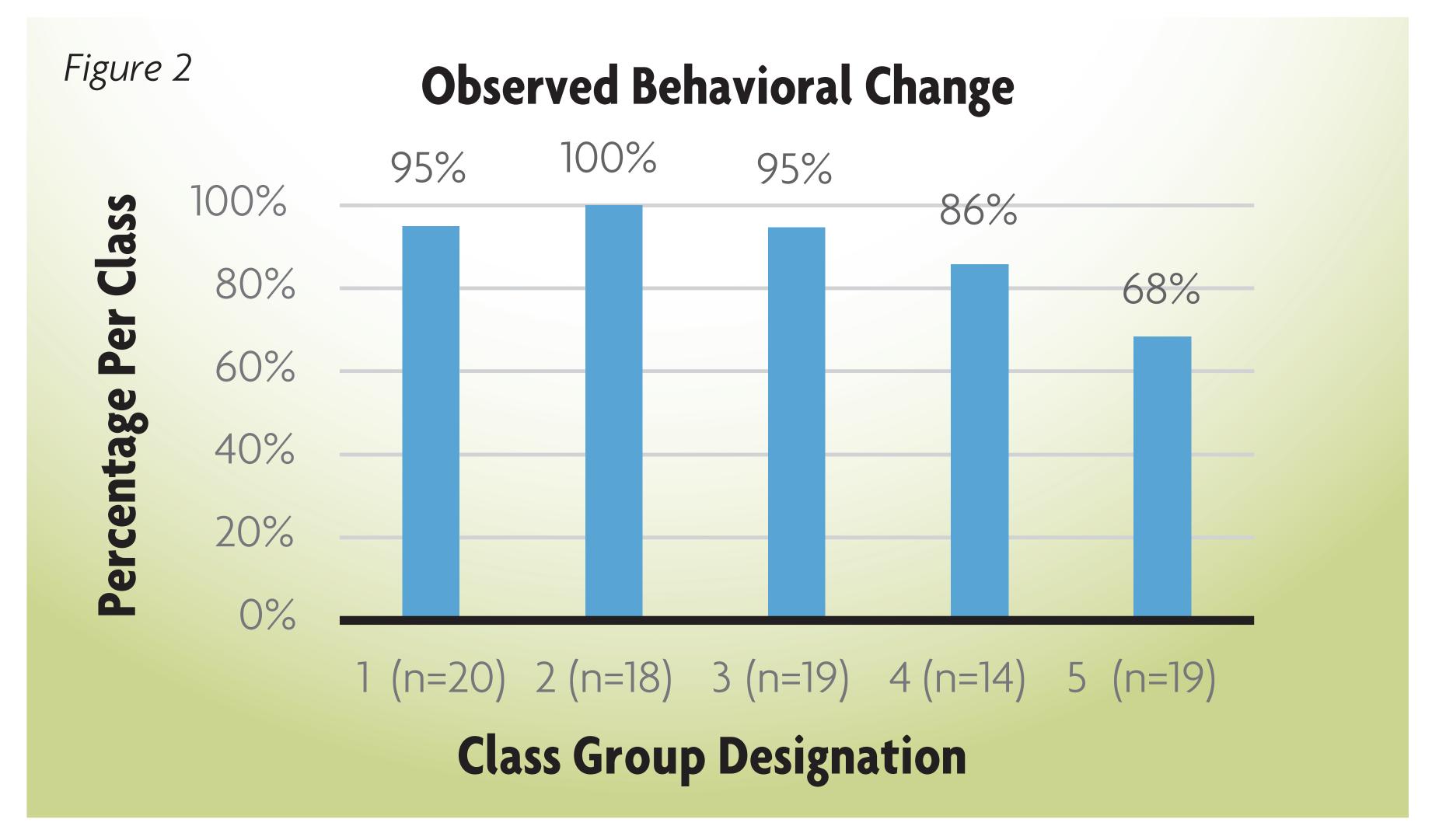
✓ There was a 71% decrease (p-value= 0.001) in incidence of illness-related absences 30 days after the

 \checkmark In three out of five classes, hand sanitizer was more effective when compared to hand washing.

In addition, cultures from 10 students (two from each class) were obtained and incubated in a microbiology lab to identify the common microbes among second grade students. Results revealed both resident and transient flora. Post-intervention, there was a rise in coagulase-negative Staphylococci resident flora. This indicated a successful decrease in transient flora, which is most

. Center for Disease Control and Prevention. Hand Washing: Clean Hands Saves Lives. Center for Disease Control and Prevention website. 2016. Retrieved from: https://www.cdc.gov/







Absenteeism Due to Illness

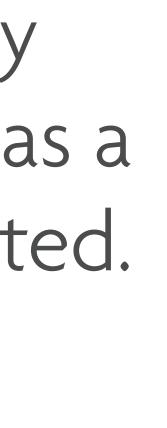
Confidence Level 95%

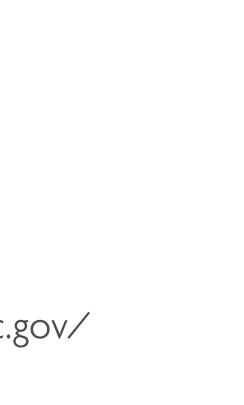
(Expected Reduction 50% or 63)

P Value = 0.00149

Mar 28 - May 15

(30 Days Post)









Time Frames (Pre & Post Intervention)

Feb 13 - Mar 27

(30 Days Prior)

[.] Johansen A, Denbaek AM, Bonnesen CT, Due P. The Hi Five study: design of a school-based randomized trial to reduce infections and improve hygiene and well-being among 6-15 year

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^{6.} Cevuzci S, Uludag A, Topaloglu N, Babaoglu UT, Celik M, Bakar C. Developing students' hand hygiene behaviors in a primary school from Turkey: A school-based health education study. International Journal of Medical Science and Public Health. 2015; 4:2.