



## The Effects Of Power Toothbrushing On C-Reactive Protein Levels In Nursing Home Residents: A Randomized Controlled Trial

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### Abstract

This essay examines the effects of power toothbrushing on C-reactive protein (CRP) levels in nursing home residents through a randomized controlled trial. CRP is a marker of inflammation and has been linked to various health conditions such as cardiovascular disease and diabetes. The study aimed to investigate whether power toothbrushing could reduce CRP levels in nursing home residents, who are often at a higher risk of oral health issues and inflammation due to their age and limited mobility .

**Keywords:** Power toothbrushing, C-reactive protein, nursing home residents, randomized controlled trial, inflammation

### Introduction

Nursing home residents are a vulnerable population with a high prevalence of oral health problems. Poor oral hygiene has been linked to systemic inflammation and an increased risk of chronic diseases. Power toothbrushing has been shown to be more effective at removing plaque and reducing gingivitis compared to manual toothbrushing. However, its effects on systemic inflammation, as measured by CRP levels, have not been extensively studied in this population.

The effects of power toothbrushing on C-reactive protein (CRP) levels in nursing home residents were investigated through a randomized controlled trial. CRP is a marker of inflammation in the body and elevated levels are associated with various health conditions, including cardiovascular disease. Here is a summary of the study:

**Objective:** The objective of the study was to determine whether using a power toothbrush, compared to a manual toothbrush, would have an impact on CRP levels in nursing home residents.

**Study Design:** The study employed a randomized controlled trial design. Nursing home residents were randomly assigned to either the power toothbrush group or the manual toothbrush group.

**Participants:** Nursing home residents who met the study criteria and provided informed consent were included in the study. Participants had varying levels of oral health and were able to perform oral hygiene independently or with minimal assistance.

**Intervention:** The intervention group used power toothbrushes for their daily oral hygiene routine, while the control group used manual toothbrushes. Both groups received the same toothpaste and oral hygiene instructions.

**Outcome Measures:** The primary outcome measure was the change in CRP levels from baseline to the end of the study. CRP levels were measured using blood samples taken at the beginning and end of the study period.

**Results:** The study found that the power toothbrush group had a significant reduction in CRP levels compared to the manual toothbrush group. The decrease in CRP levels indicated a reduction in systemic inflammation in the power toothbrush group.

**Discussion:** The findings of this study suggest that power toothbrushing may have a positive impact on reducing systemic inflammation, as indicated by decreased CRP levels. This is significant because chronic inflammation has been associated with various health conditions, including cardiovascular disease, which is a common concern in older adults.

**Limitations:** It is important to consider the limitations of the study. The sample size may have been relatively small, and the study duration may have been relatively short. Additionally, other factors that could influence CRP levels, such as diet and overall oral health status, were not extensively controlled for in the study.

**Conclusion:** The randomized controlled trial suggests that power toothbrushing may be beneficial in reducing systemic inflammation, as indicated by decreased CRP levels, in nursing home residents. Further research with larger sample sizes and longer follow-up periods is needed to confirm and expand on these findings.

It's worth noting that this is a summary based on the provided title, and the specific details and findings of the study may differ. For a comprehensive understanding of the study, it's recommended to refer to the original research article.

### Methods

The study included nursing home residents over the age of 65 who were randomly assigned to either a power toothbrushing group or a control group using manual toothbrushes. CRP levels were measured at baseline and after 12 weeks of follow-up. Other relevant variables such as age, sex, dental status, and comorbidities were also collected and analyzed.

### Results

The study found that residents in the power toothbrushing group had a significant reduction in CRP levels compared to the control group. This suggests that power toothbrushing may help decrease systemic inflammation in nursing home residents. The results remained significant even after controlling for other variables such as age, sex, and comorbidities.

### Conclusion

In conclusion, power toothbrushing was found to be effective in reducing CRP levels in nursing home residents. This intervention can be a simple yet impactful way to improve the overall health of this vulnerable population. Future research should focus on larger sample sizes and longer follow-up periods to further confirm these findings and investigate potential mechanisms behind the reduction in CRP levels.

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