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**Original Article**

# The Influence of Social Media-Based Parental Education on Children's Oral Health

**Mohammed Almarshad[1], Mobarak Alfawwaz[1], Abdulrahman AlSaffan[2], Shahzeb Hasan Ansari[3]***

[1]Dental Interns, Riyadh Elm University, Riyadh, Saudi Arabia.
[2]Dental Public Health, Riyadh Elm University, Riyadh, Saudi Arabia.
[3]Faculty of Preventive Dentistry, Riyadh Elm University, Riyadh, Saudi Arabia.

***E-mail** ✉ shahzebhasan@riyadh.edu.sa

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## ABSTRACT

It is crucial for parents to foster and enhance their children's sense of oral healthcare behavior. It is necessary for parents to assist their children in developing habits such as tooth brushing, rinsing the mouth, and flossing. This observational study investigates the effects of an educational video before and after its use. The first step involved examining children to assess the plaque index and oral hygiene index. in the 2nd phase, pre-questionnaires and video links were sent to parents via WhatsApp for their education. A subsequent contact was made to verify that the child had been shown the entire video. Three weeks later, the third step was executed. It featured an additional measurement of the plaque and a simplified oral hygiene index to facilitate comparison between the pre- and post-examinations. Ultimately, the parents were requested to complete the post-survey. The findings illustrate the difference in average values for before and after the video demonstration, suggesting that while the difference in calculus is not statistically significant, the difference in plaque index is. The carrying out of educational intervention results in a considerable enhancement of children's oral health.

**Keywords:** Oral health education, Social media, Children's oral health, Parents

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## Introduction

It is widely recognized that children's oral health is directly linked to parental knowledge and attitudes regarding oral health [1]. It is crucial for parents to foster and enhance their children's sense of oral healthcare behavior. Parents need to help children incorporate habits like tooth brushing, mouth rinsing, and flossing [2, 3].

Several research have aimed to determine the connection between parental awareness and attitudes toward oral health and the habitual improvement of their children. The risk of developing early childhood caries increases if children's oral health practices do not improve. To improve their patients' oral health, dental care professionals must work to amend parents' negative beliefs and perceptions [4, 5].

Success in achieving the objectives mentioned above hinges on oral health education programs. Practical education can be used to implement these intervention programs, which can include demonstrations of brushing, flossing, and mouth rinsing, as well as animated instructional videos. Studies have shown that teaching children in schools can have a beneficial effect on their oral health care habits [6-8].

Educational videos covering a range of subjects linked to dietary habits and oral health behaviors will be used in this study. A number of studies have been carried out to assess how effective these videos are in enhancing behaviors related to oral health. The overall oral health behavior of recipients has been positively influenced by educational videos [9, 10].

Al-Saffan *et al*. (2017) carried out a thorough oral

health education initiative employing videos to evaluate the enhancement of children's knowledge [11]. the literature outcome demonstrates a knowledge level that is significantly improved post-educational program.

*King salman center for children's health (KSCCH)*

This literature will be carried out in collaboration with KSCCH, which aligns with the Saudi Arabian Vision 2030. The Saudi Arabia Vision 2030 for health care aims to improve the caliber of our therapeutic and preventive services, focusing on the promotion of preventive care.

Numerous school educational programs were provided in the city of Riyadh by King Salman Center for Children's Health (KSCCH) and Riyadh Elm University to enhance community groups' health and oral health knowledge [11].

*Study hypotheses*

Parental involvement in video-based education can improve their children's oral health-related behavior.

*Aims of the study*

1. To assess the extent of enhancement in children's oral hygiene and habits prior to and subsequent to the educational video demonstration aimed at parents
2. To motivate and instruct parents and their kids on the correct method of using dental floss and a toothbrush
3. To find and motivate and instruct parents and their kids on the correct method of using dental floss and a toothbrush

## Materials and Methods

*Study design and steps*

This is an observational study, with the before and after effects of educational video. The first step was an examination of children to measure plaque index and oral hygiene index. The second step included sending pre-questionnaire and video links to parents on WhatsApp for their education, and we contacted them later to ensure that the complete video has been shown to the child. The third step was taken after 3 weeks and measured the plaque and simplified oral hygiene index once more to achieve a comparison between pre-and post- examinations. Finally, the parents were asked to fill the post-survey.

*Study sample*

52 male students aged 10-12 years were selected from a private school and their parents were also contacted.

*Patients' confidentiality*

Patients' confidentiality was maintained by not using their complete names. Instead, we used their initials only and each patient was given a number to identify.

*Study instrument*

We used two indices, plaque as well as simplified oral hygiene, with using WHO Prop and Explorer disposables, gloves, and mask.

*Instrument reliability*

Clinical examination and measurement of indices were done on each child by at least two levels 12 dental students. Inter-examiner reliability (kappa) was calculated using SPSS version 22 and a value more than 0.6 was considered acceptable.

*Statistical analysis*

The collected data were analyzed using SPSS version 22, where descriptive as well as inferential statistics were conducted. Comparisons between groups were made using the Wilcoxon test with the value of significance kept under 0.05.



## Results and Discussion

Parents were involved in oral examinations that featured calculus and plaque indices, carried out before and after the video presentations. To compare the oral examinations conducted before and after, a paired sample t-test was performed. Using SPSS, the calculation of inter-rater reliability yielded an acceptable result (kappa: 0.722).

*Pre- and post- examinations*

*Calculus index*

**Table 1.** Pre- and Post- Results for Calculus Index

| Pair | Pre-mean<br>Post-mean | Mean | Std. Deviation | P-value |
|---|---|---|---|---|
| **Pre-calculus**<br>**Post-calculus** | .022<br>.000 | .022 | .149 | .323 |

*Plaque index*

**Table 2.** Pre- and Post- Results for Plaque Index

| Pair | Pre-mean<br>Post-mean | Mean Difference | Std. Deviation | P-value |
|---|---|---|---|---|
| **Pre-plaque**<br>**Post-plaque** | 1.35<br>1.08 | .266 | .579 | .004 |

As illustrated in **Tables 1 and 2,** the mean value differences for pre- and post-video demonstration vary: the difference in calculus is not statistically significant, while the plaque index shows statistical significance.

*Overall knowledge assessment*

**Table 3** below shows the difference in pre-and post-tests, where the Wilcoxon sign rank test was performed. It can be observed that a statistically significant difference exists between pretest and posttest values.

**Table 3.** The Number of Students with Total Number of Correct Answers in Pre- and Post- Test.

| Overall score Categories | Pretest, n (%) | Posttest, n (%) | Percentage Change | P-value |
|---|---|---|---|---|
| **Low (0-9)** | 23 (44.2%) | 14 (26.9%) | -15.4 | <0.001 |
| **Medium (10-14)** | 19 (36.5%) | 15 (28.8%) | -7.7 | |
| **High (14-18)** | 10 (19.2%) | 23 (44.2%) | 26.9 | |

The aim of this study was to ascertain how the intervention of educational videos shown to schoolchildren by their parents affected knowledge and attitudes regarding oral hygiene maintenance. The findings clearly show that knowledge and attitudes toward oral hygiene have improved significantly. A research done in India indicated same results, revealing a statistically large variance and enhancement in children's knowledge. They also utilized the method of incorporating videos as a teaching resource. Our study involved 52 participants, whereas theirs had only ten [9].

A number of studies have been carried out to show the link between educational intervention and behavior change. Animations and presentations are thought to be accepted by the human mind much more effectively than written or verbal information. These studies have conducted pre-and post-tests to validate the degree of enhancement, yet results show a minor dependence on the length of time the intervention was implemented [12, 13].

This study managed to fulfill its aim of enhancing oral hygiene and increasing awareness of oral health. A large number of studies have recorded similar outcomes, and the success of educational programs has been recognized. The studies also found that the improvement of oral health behavior was linked to both the participants' willingness and the dedication of public health workers [14, 15].

Our findings indicated that the educational intervention resulted in an improvement in oral hygiene, as evaluated through clinical examination. A multitude of further studies have documented comparable outcomes, having observed a positive alteration resulting from the educational intervention concerning oral health [16, 17].

## Conclusion

- When educational intervention is implemented, children's oral health significantly improves.
- Children's understanding can be improved by utilizing appealing videos as an educational resource.
- It is possible to adapt the school curriculum so that educational intervention becomes a lasting element.

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**Conflict of Interest:** None

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