

A Method Of Oral Health Education Among 3-6-Year-Old School Children

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Abstract

Purpose

To find the effectiveness of storytelling as a method of Oral health education among 3-6-year-old preschool children.

Design

A Non-Randomized experimental pre-post study design.

Setting

Preschools located in urban Bangalore.

Subjects

200, 3-6 years, preschool children.

Intervention

An age appropriate story with oral health messages was delivered using hand puppets during the storytelling session in pre-school.

Measures

A self-administered 11 itemed picture based, closed ended questionnaire assessed children's Knowledge and

Attitude at baseline and post intervention. One-week audit sheet to monitor the brushing, eating and mouth rinsing pattern was administered for the parents to measure the change in behavior post intervention.

Analysis

Change in KAP mean scores, was assessed using 'Wilcoxon Sign Rank test' at $p < 0.05$. 'Cohen's d' was used to calculate the 'Effect size'.

Results

Significant improvement was observed in mean KAP score (Pre 7.52 ± 1.95 post 8.60 ± 1.55 , $p = 0.0001$) with effect size 0.2. There was a significant increase in the knowledge and Attitude and Practice score, Knowledge (Pre 2.97 ± 1.02 , Post 3.63 ± 0.78 , $p = 0.0001$, Effect Size : (0.3), Attitude (2.27 ± 0.81 , 2.77 ± 0.60 , $p = 0.000$, Effect Size: 0.3). and practice (2.04 ± 1.07 , 2.28 ± 0.60 , $p = 0.0001$, Effect Size: 0.1).

Conclusion

The storytelling method was effective in improving the oral health related KAP of

Children aged 3 – 6 yrs.

Significance

This study attempts to inculcate good oral hygiene practices at a very early stage by targeting 3- 6-year-old preschool children. Storytelling being humankind's oldest form of teaching and motivating change, can not only address the prevailing oral disease burden but the oral health inequality by reaching out to every community.

Keywords

Oral Health, storytelling, Preschool

Introduction

In developing countries like India, Oral health care services have always been a challenge due to unaffordability, inaccessibility and lack of utilization by the general community¹ and by the prevailing oral disease burden². However, because of this prevailing oral health inequality, it is mostly difficult for the rural population to easily access this services.³

India has always had a rich culture of storytelling⁹. From national epics to local village stories have been passed down orally from generation to generation. The interesting stories range from the remarkable 'Panchatantra' to 'Hitopadesha', from Vikram Betal to 'Akbar-Birbal'. Limited literature has been identified regarding the effectiveness of storytelling among elderly and youth in improving health.^{10,11} but there is no study where the effectiveness of storytelling is used to promote oral health among children.

Methods

Design & Sample

A non-randomized pre-post study was conducted on 220, 3-6-year-old preschool children, in urban Bangalore.

Ethical Clearance was obtained.

Conceptualization of the story

An age appropriate story with oral health messages have been conceptualized after a thorough review of literature and numerous Focus Group Discussion with various stakeholders; teachers, parents, dentists and storyteller. Based on the oral health content provided by WHO Health promoting School, and the feedback of the stakeholders the story was conceptualized considering the feasibility using the Fogg's behaviour model. The story contained the following oral health messages; Tooth brushing frequency, Tooth brushing technique, Amount of toothpaste, Type of toothbrush, Flossing, Mouth washing, healthy and junk food, visit to the dentist. Oral health Rhymes was also included in the story for reinforcement.

Questionnaire

An 11 itemed, closed ended, Picture based questionnaire was designed to assess KAP for the pre-test evaluation. For the post-test evaluation 4 Practice questions among the 11 questions were removed and a 7 itemed questionnaire was administered. The change in Practice component was evaluated using one week Audit sheet administered for the parents.

Intervention

Permission from school authorities, written informed consent from parents and verbal assent from the children was obtained under the agreement of confidentiality and anonymity.

The Program was named as Danta Katha Loka, and the story was titled as Piggy and Dr.

Peacock. The pre-test questionnaire was distributed. Each question was read out loud for the children to

understand. On the return a storytelling session was conducted for the same group the story was delivered using hand puppets for 15- 20 minutes in a group of 20-25 children.

Following the same protocol, the post-test questionnaire was administered.

Audit sheet and A goodie bag was distributed to each child at the end of the intervention.

Analysis

Descriptive and inferential statistics were used to analyze the data in the study. Demographic details and feedback were expressed in terms of number and percentage. Change in KAP was assessed using non parametric 'Wilcoxon Sign Rank test' as the data was non normal. $p < 0.05$ was considered significant. Cohen's d^{13} was used to calculate the effect size.

Results

Among 220 participants 103(46.8%) were male and 117(53.2%) were female. The age of the Participants range from 3 to 6 year. Majority of the participants were 4-year-old, 28(56%), followed by 5 years 16(32%). [Table-1]

Effectiveness of Storytelling

Significant improvement was observed in mean KAP score (Pre 7.52 ± 1.95 post 8.60 ± 1.55 , $p=0.0001$) with effect size 0.2. There was a significant increase in the knowledge and Attitude and Practice score, Knowledge (Pre 2.97 ± 1.02 , Post 3.63 ± 0.78 , $p=0.0001$, Effect Size :0.3), Attitude (2.27 ± 0.81 , 2.77 ± 0.60 , $p=0.000$, Effect Size: 0.3). and practice (2.04 ± 1.07 , 0.60 , $p=0.0001$, Effect Size: 0.1).

Discussion

The present study explores the effectiveness of storytelling (product) in increasing oral health

knowledge, attitude and behavior of the children, we considered the term 'beta test' to be appropriate.

This study attempts to inculcate good oral hygiene practices at a very early stage by targeting 3- 6-year-old preschool children. Children at this age are reaches a developmental milestone

where children grow physically, socially, emotionally and intellectually.

Conclusion

The storytelling method was effective in improving the oral health related Knowledge, Attitude and Practice children aged 3 – 6 yrs.

Clinical Significance

- Storytelling is, a cost-effective edutainment tool, can be integrated in any community irrespective of the urban and rural.
- Requires minimum infrastructure hence can be easily administered
- Storytelling in India has its own cultural value hence can aid in widespread acceptance.

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