



**EFFECTIVENESS OF ORAL HEALTH EDUCATION PROGRAM TO ANGANWADI
WORKERS IN IMPROVING THE ORAL HEALTH STATUS AND PRACTICES OF
PRESCHOOL CHILDREN IN AND AROUND MODINAGAR**

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ABSTRACT

Background Poor oral health in early childhood is one of the most serious and costly health conditions. Oral health knowledge is considered to be an essential prerequisite for health-related behavior. Anganwadis have played a useful role for developing healthy habits like brushing teeth and hand washing in the anganwadis through non-formal education methods focusing on pre-school children (under six years). This system can support parents and home to sustain the healthy habits acquired in the anganwadis. **Aim** To study the effectiveness of oral health education program to Anganwadi workers on improving oral health status of preschool children of Modinagar. **Materials and Methods** In the present study Baseline data was collected regarding Oral health knowledge of Anganwadi workers using questionnaire and Oral hygiene practice and clinical examination of 3-5 year old children attending these centres by using Plaque index and WHO 2013 dentition status. Oral health education programs were given in the anganwadi centres and post intervention data was collected and analyzed using SPSS v20.0 Chi-square test. **Results** At baseline the oral hygiene practice score was poor for 74.5% of study population. After education it decreased to 1.7%. At baseline, plaque index score was excellent in 12%, good in 58.8%, fair in 25.5% and poor in 3.7% of the study population. After oral health education program, the overall excellent score got increased along with the knowledge of anganwadi workers. **Conclusion** the present study found that oral health education to anganwadi workers can help improve oral health status of children attending these centres.

KEYWORDS: Anganwadi workers, oral health education, preschool children.

INTRODUCTION

Globally, dental caries is categorized in the list of public health problems in the children aged 3-6 years.^[1] Poor oral health in early childhood is one of the most serious and costly health conditions in young children.^[2] The disease can affect the growth and development of the child, by affecting diet and nutrition patterns and leading to chronic oral infections, pain, suffering and tooth loss.^[3] In India, there is an inequitable distribution of qualified dental practitioners. Seventy percent of the Indian population resides in rural area, for which only 30% dental facilities are available. The oral disease burden is high in the rural areas.^[4] Control of oral diseases is only possible if services are oriented towards primary health care and prevention.^[2] Oral health knowledge is considered to be an essential prerequisite for health-related behavior.^[5] It has been observed across various countries that basic health care workers and parents have limited knowledge about causes and prevention of the most common oral diseases.^[1] A significant reduction in the disease pattern has been demonstrated worldwide by oral health education

emphasizing on preventive strategies.^[3] The Integrated Child Development Scheme (ICDS), initiated nearly 33 years ago, in October 1975, has become the largest child development program.^[6] Eligible beneficiaries covered under this program are children below 6 years of age, pregnant women, nursing mothers and adolescent girls.^[2] Under the ICDS scheme, one trained person is selected to focus on the health and educational needs of children age 0-6 years. This person is the Anganwadi worker (AWW). The Anganwadi worker is the most important functionary of the ICDS scheme.^[7] System of ICDS anganwadis has played useful role for developing healthy habits like brushing teeth and hand washing in the anganwadis through non-formal education methods (learning by play way activities) focusing on pre-school children (under six years). This system can support parents and home to sustain the healthy habits acquired in the anganwadis.^[8] Assessing the knowledge, attitude and practices (KAP) of AWW is the first step towards planning an oral health education program and strengthening their skills which will in turn enable them

to identify high risk children and further empower the mothers for preventive action.^[6]

Objective

To objective of the study was to assess the effectiveness of oral health education program to Anganwadi workers (AWWs) on improving oral health knowledge and oral health status of preschool children aged 3-5 years attending these schools in Modinagar.

MATERIALS AND METHODS

The study was conducted on Anganwadi workers and 3-5 years old preschool children, enrolled in the Anganwadi Centres of Modinagar. Total 149 Anganwadi centres were present in Modinagar block, out of which 24 Anganwadi centres were selected by simple random sampling method. 24 Anganwadi centres were divided into 4 groups (6 centres in each group) by simple random sampling method. 24 Anganwadi Centres with no previous history of oral health education program of their workers were selected. Each Anganwadi Centre contained 30-35 children in age group of 3-5 years and from selected 24 Anganwadi centres, 600 (150 children from each group) was the final sample size included in the study. Baseline data was collected regarding

1. Oral health knowledge of Anganwadi workers
2. Oral hygiene practice and clinical examination of 3-5 year old children attending these centres by using Plaque index and WHO 2013 dentition status.

The oral health education program focussed on oral health care and hygiene practices; functions of teeth; dentitions and their significance; dietary habits and their effects on oral hygiene; importance of a tooth friendly diet; etiology and prevention of dental caries; injurious oral habits; trauma; primary management of avulsed tooth by parents; influence of oral health on general health; importance of twice daily brushing; use of fluoride toothpaste; common dental and gum disorders; bottle feeding and its effect on nursing bottle caries. proper tooth-brushing technique and importance of a regular dental visit.

Group 1: The group 1 was included in the present study to assess the effectiveness of the prepared education material in improving the oral health knowledge of Anganwadi workers and oral hygiene practice of children. 15 minutes health education talk was given to AWW's.

Group 2: In group 2, oral health education program was given by the examiner to the Anganwadi workers. The duration of program was approx 2 hours. The intervention was given with the help of flip charts, photo album and drawings on the black board.

Group 3: In group 3, oral health education program was given to Anganwadi workers and 3-5 year old children of their centre. The duration of program was approx 2 hours. Interactive session was done in group 3 with

Anganwadi workers and children along with live demonstration of tooth brushing on the study models by the investigator.

Group 4: In group 4, oral health education program was given to Anganwadi workers along with 3-5 year old children and their parents with the help of power point presentation (Audio-visual). The duration of program was approx 2 hours.

Reinforcement was given after one month to all groups. Five months after reinforcement oral health knowledge of Anganwadi workers, oral hygiene practice, plaque and dentition status of the children of age group 3-5 year old children were reassessed on similar study subjects the same questionnaire and proformas utilized for the baseline assessment were used for the final assessment.

Ethical clearance: approval and ethical clearance was obtained from institutional review board wide no. DJ/IEC/2019/45.

Statistical analysis

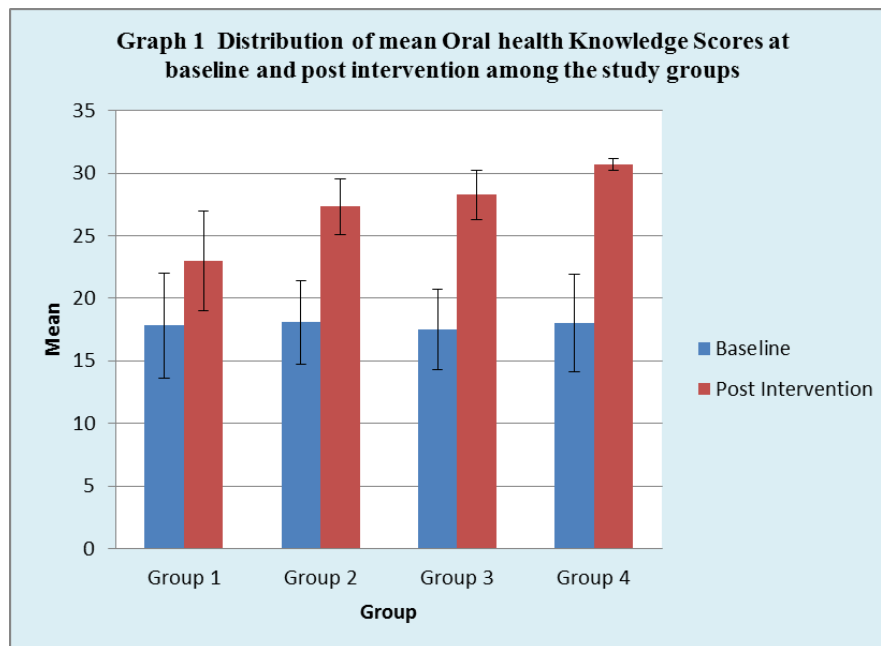
Descriptive statistical analysis was carried out in the present study. Results on categorical measurements are presented in Numbers (%) and results on continuous measurements are presented on Mean \pm SD (Min-Max). Significance is assessed at 5% level of significance. Chi – square test and Mann-whitney U test has been used to find the significance of study parameters on categorical scale and ordinal scale between two or more than two groups.

RESULTS: the results showed a significant improvement in the overall oral hygiene status and practice of the study groups. At baseline the oral hygiene practice score was poor for 74.5%, fair for 22.2% and good for 3.3% of study population. After education, 69.8% study population was having good, 28.5% fair and merely 1.7% poor oral hygiene practice score. At baseline, plaque index score was excellent in 12%, good in 58.8%, fair in 25.5% and poor in 3.7% of the study population. After oral health education program, the overall excellent score got increased with eradication of poor score in the study population. All the groups showed significant improvement but maximum improvement was witnessed in Group 4.

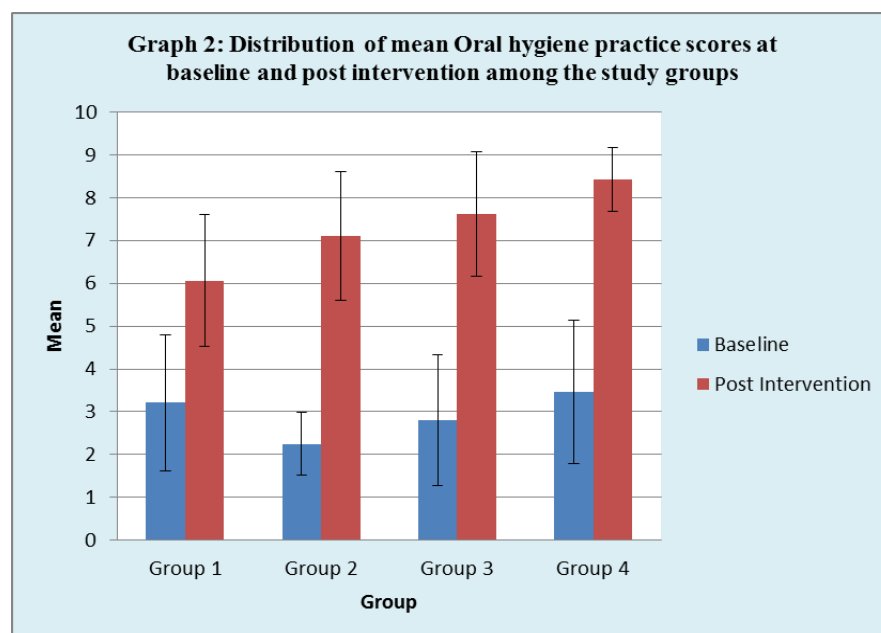
Table 1 shows Distribution of study population on the basis of Plaque Index Score at baseline (BL) and post-intervention (PoI)

Table 1

Plaque index score	Groups								Total	
	Group 1		Group 2		Group 3		Group 4			
	BL%	PoL%	BL%	PoL%	BL%	PoL%	BL%	PoL%	BL%	PoL%
Excellent	14.7	32.7	4.7	38.7	10.0	35.3	18.7	70.0	12.0	44.2
Good	52.0	56.0	70.7	59.3	56.7	58.7	56.0	30.0	58.8	51.0
Fair	30.0	11.3	21.3	2.0	26.7	6.0	24.0	0.0	25.5	4.8
Poor	3.3	0.0	3.3	0.0	6.7	0.0	1.3	0.0	3.7	0.0
Chi-square(df)	18.751(3)		46.922(3)		33.968(3)		62.830(3)		36.845(3)	
p-value	0.0003		0.0000		0.0000		0.0000		0.0000	



Graph 1



Graph 2

DISCUSSION

The present study focuses on improving oral hygiene of preschool children by providing oral health education to anganwadi workers, who further disseminate the knowledge to mothers and children attending AWCs. Raj S et al^[3] conducted a study to evaluate the impact of oral hygiene training package to Anganwadi workers on improving oral hygiene of preschool children and justified that the workers can be used for oral hygiene training.

In our study there was a significant improvement in oral hygiene practice of children post intervention. The overall mean oral hygiene practice score was 2.93 ± 1.499 at baseline and 7.30 ± 1.594 after intervention. In our study, only 20% of study population brushes their teeth twice a day in baseline and this value has been increased to 75.8% after the oral health education intervention.

In our study at baseline, the overall mean oral health knowledge score of anganwadi workers was 17.85 ± 3.579 and after intervention it was 27.31 ± 3.708 . Mean knowledge score of the participants in a study done by Bhambal A et al^[9] was 8.75 which is similar to the study done by Frazão and Marques^[10] in which the mean score among Community Health Workers was 9.09.

In the present study at baseline, plaque index score was excellent in 12%, good in 58.8%, fair in 25.5% and poor in 3.7% of the study population. After intervention, plaque index score was excellent in 44.2%, good in 51%, fair in 4.8% of the study population. Similarly reduction in plaque index score was found in studies done by Biesbrock Aretal^[11] and Ganesh AS et al.^[12]

CONCLUSION

The Anganwadi worker is a positive force that needs to be channelized in the direction of oral health promotion. She is an agent of change in the community, the most approachable community health care worker who is in close and continuous contact with the people, as well as the health care system. Oral health care training and skills must be included with general health training in the curriculum of Anganwadi workers. Preventive programs in the Anganwadi centres should be set as a high priority goal by health policy makers.

Reinforcement through oral health education sessions in the intervention resulted in significant improvement in oral health knowledge of Anganwadi workers, oral health practice and reduction in plaque score and dental caries of children.

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