

# Knowledge, Attitude and Practices of Primary School Teachers before and after Implementation of Teacher Training Programmes in Lucknow District

Dr. Jitendra Rao, Dr. Anshdha Shah, Dr. Kalpana Singh, Dr. Piyush Kumar Chaudhary  
Dr. Shraddha Mishra, Dr. Archita Agarwal

## Abstract:

**Introduction:** School teachers have a significant impact on school going children especially at a younger age. Using primary school teachers for the purpose of education and increasing awareness about oral hygiene practices provides access to a larger population, improved communication and low activity costs.

**Materials and Methods:** This survey was conducted in Lucknow District where school teachers from fifteen primary schools were included. A total of 33 teachers of these schools were enrolled for training program. The questionnaire consisted of 3 parts knowledge, attitude and practices. The questionnaire consisted of 3 parts knowledge, attitude and practices. Mean knowledge, attitude and practice score was calculated initially and after 1 year of training. The level of significance was set at 0.05.

**Result:** Prior to the teacher training programme more than 50% of the subjects seemed to have appropriate knowledge regarding the cause of calculus deposits on the tooth surface and bleeding gums. Almost all the individuals seem to think that toothbrush is the most appropriate tool to practice oral hygiene, however, not all of them seem to know the importance of flossing. Most of the individuals did not use a toothbrush of appropriate hardness/ softness. Answers of slightly more than half of the teachers suggested that they had occasionally suffered from toothache and bleeding gums. The score for any of the questions does not show a statistically significant change.

**Discussion:** The evaluation of the knowledge prior to the implementation of the training programme shows that most individuals had average knowledge regarding oral diseases such as dental caries, bleeding gums and about hard tissue deposits. After the implementation of the training programme the attitudes regarding means of maintenance of oral hygiene showed no difference. Most of the did not use a toothbrush of appropriate hardness/ softness. Answers of slightly more than half of the teachers suggested that they had occasionally suffered from toothache and bleeding gums. The score for any of the questions does not show a statistically significant change

**Conclusion:** The teacher training programme held did improve their knowledge and attitudes to some extent however, motivation to improve their current practices regarding their oral health remained lacking. Thus,

**assessment of the needs of a specific area should be done to formulate a customized teacher training programme that focuses on the weaker points.**

## I. INTRODUCTION

Dental caries is one of the commonest disease of the oral cavity. In India, it has a prevalence of 49 % in children aged 5 -12 years. With age this prevalence is only bound to increase, thus, educating school going children on the oral health and hygiene maintenance seems a feasible way to control the disease.<sup>1</sup>

School teachers have a significant impact on school going children especially at a younger age. Using primary school teachers for the purpose of education and increasing awareness about oral hygiene practices provides access to a larger population, improved communication and low activity costs. Teachers also occupy the role of the primary leader for children, and information coming from them has a better chance of acceptability by the children. As teachers are in constant communication with the children they have the opportunity to provide frequent intervention and motivation to the children to bring about the desirable behavioural changes in them.<sup>2</sup>

In order to impart helpful knowledge to children, the teachers themselves should be aware of the more commonly prevalent dental diseases and proper oral hygiene practices to maintain good oral health. Instilling proper knowledge and practices pertaining dental health at an early age will contribute towards a more responsible adult population in the future. Raising awareness among children, helps save not only time and money over dental procedures but also prevents children from undergoing fearful treatment procedures.<sup>3</sup>

There have been many instances where school teachers take up the task of oral health education among students which brings about better oral hygiene maintenance in children as they follow appropriate oral hygiene measures. This can however, only be accomplished when teachers themselves have adequate knowledge about oral health, oral hygiene practices and oral diseases so that he can not only educate the children but be capable to solve the queries of their students on this subject.<sup>4,5</sup> For this purpose of educating the teachers so they in turn can impart that knowledge to children teacher training programmes have been developed and introduced as part of various health programmes. To formulate training programme that provide maximum benefits, it is first needed to assess the existing

knowledge and awareness of the teachers as well as the practices they follow, so that which is lacking can be identified and incorporated into the training programmes.

The current survey was carried out to assess the knowledge, awareness and practices (KAP) among teachers of primary schools in North India. Also the efficacy of the teacher training programme was evaluated by performing the same survey after 1 year and evaluate the needs of oral health education programmes for school teachers.

## II. METHODOLOGY

This survey was conducted in Lucknow District where school teachers from fifteen primary schools were included. A total of 33 teachers of these schools were enrolled for training program. Before starting the teachers training program, all these teachers are asked to fill up the structured questionnaire pertaining to their general knowledge, aptitude and practice and was also recorded by separate questionnaires. In this phase camps were organized. At the end of one year, the same structured questionnaire was again given to them to judge their knowledge and the impact of the training program. The assessment of teachers training was evaluated.

The questionnaire consisted of 3 parts knowledge, attitude and practices. Eight questions were designed to evaluate the knowledge of the subjects. Each question consisted of three options and the most appropriate answer was awarded a score of 4, the answer that was less relevant was scored 3 and the least relevant option scored 2. Four questions evaluated the attitude of the subjects and each question had 4 options and the most relevant option was scored 4 and the least relevant was scored 1.

Six questions enquired about the practices of the subjects, each question having 4 options. The most relevant option was scored 4 and the least relevant 1.

The primary school teachers were then subjected to the Teacher training Programme through the informational and educational content developed in collaboration with WHO. It included a basic knowledge on the different types of teeth present in the oral cavity and the function of each type. They were educated on the stages of progression of dental caries and how it spreads within the oral cavity with an emphasis on the various symptoms one may experience. They were educated regarding the tools to maintain proper oral hygiene as well as proper brushing and flossing technique. They were also introduced to the concept of malocclusion.

The same evaluations were done 1 year after the implementation of the teacher training programme. The

questionnaire was in the local language (Hindi) for better understanding by the study population.

## III. RESULTS

- Knowledge aspect** – Prior to the teacher training programme more than 50% of the subjects seemed to have appropriate knowledge regarding the cause of calculus deposits on the tooth surface and bleeding gums. Most of the teachers seemed to have knowledge about the cause behind malodour. Almost none of the individuals barring a few did not have much knowledge about periodontitis (pyorrhea). More than half of the teachers possessed knowledge of dental caries as well as the primary cause for oral diseases. All individuals seemed to be well versed with the importance of oral hygiene. No more than half the individuals had knowledge about the ill-effects of tobacco chewing. After the implementation of teacher training programme, the mean score for all questions shows an increase except question 2,3,8 where a decrease was seen. The mean scores remained same for questions 7. A p value of <0.001 indicating a significant increase in the mean scores was seen for questions 5,6,8. A p value of 0.001 for question 4 shows a moderately significant improvement after the training programme (Table 1)
- Attitude aspect** -Almost all the individuals seem to think that toothbrush is the most appropriate tool to practice oral hygiene, however, not all of them seem to know the importance of flossing. More than half of the teachers seemed to be using fluoridated toothpaste. Some of the teachers seemed to be aware with concept of diet alteration for caries prevention. After the implementation of the training programme the attitudes regarding means of maintenance of oral hygiene showed no difference. There was slight improvement, although not significantly in their attitude towards use of fluoridated toothpaste. A moderately significant improvement was seen in their attitude towards diet alteration in prevention of dental caries. (Table 2)
- Practices aspect** – Most of the individuals did not use a toothbrush of appropriate hardness/ softness. Answers of slightly more than half of the teachers suggested that they had occasionally suffered from toothache and bleeding gums the score for any of the questions does not show a statistically significant change. Most of them showed appropriate practices to deal with problems pertaining to the oral cavity while refraining from resorting to home remedies. Even after the implementation of the training programme no improvement was seen in the practices of the school teachers. (Table 3)

S. no	Initial score (mean $\pm$ SD) (n=33)	Score after 1 year (mean $\pm$ SD) (n=33)	P value
Q1	3.394 $\pm$ 1.273	3.667 $\pm$ 0.736	0.222
Q2	3.182 $\pm$ 0.392	3.091 $\pm$ 0.678	0.447
Q3	3.939 $\pm$ 0.242	3.848 $\pm$ 0.712	0.500
Q4	0.364 $\pm$ 1.168	2.970 $\pm$ 0.585	0.001
Q5	3.030 $\pm$ 1.045	3.970 $\pm$ 0.174	<0.001
Q6	3.303 $\pm$ 0.467	3.879 $\pm$ 0.031	<0.001
Q7	4.000 $\pm$ 0.000	4.000 $\pm$ 0.000	1.000
Q8	2.090 $\pm$ 1.308	1.030 $\pm$ 0.467	<0.001

Table 1: Knowledge Scores of Teachers at Beginning and One Year After

S. no	Initial score (mean $\pm$ SD) (n=33)	Score after 1 year (mean $\pm$ SD) (n=33)	P value
Q9	3.909 $\pm$ 0.292	3.909 $\pm$ 0.522	1.000
Q10	2.909 $\pm$ 1.809	2.909 $\pm$ 1.809	1.009
Q11	3.679 $\pm$ 0.984	3.939 $\pm$ 0.242	0.174
Q12	2.879 $\pm$ 1.166	3.788 $\pm$ 0.600	0.001

Table 2: Attitude scores of Teachers at the Beginning and One year later

S. no	Initial score (mean $\pm$ SD) (n=33)	Score after 1 year (mean $\pm$ SD) (n=33)	P value
Q13	2.697 $\pm$ 0.585	2.697 $\pm$ 0.529	1.000
Q14	2.758 $\pm$ 1.480	2.576 $\pm$ 1.601	0.280
Q15	3.758 $\pm$ 0.969	3.758 $\pm$ 0.969	1.000
Q16	3.667 $\pm$ 0.692	3.485 $\pm$ 1.121	0.338
Q17	3.424 $\pm$ 1.251	3.545 $\pm$ 1.201	0.649
Q18	3.485 $\pm$ 1.034	2.697 $\pm$ 0.684	0.243

Table 3: Practice scores of Teachers at the Beginning and One year later

#### IV. DISCUSSION

The evaluation of the knowledge prior to the implementation of the training programme shows that most individuals had average knowledge regarding oral diseases such as dental caries, bleeding gums and about hard tissue deposits. Most of them seemed to know that oral health or the lack thereof may have an impact on the systemic health. The subjects however, lacked knowledge on periodontitis and the ill effects of tobacco chewing and the conditions that may arise due to it. A study in the state of Andhra Pradesh evaluating the knowledge, attitude and practices of school teachers regarding dental caries and its prevention indicated that more than half the teachers had the basic knowledge but it was incomplete and teacher training programmes needed to be held to improve their knowledge.<sup>6</sup> Another study by Lang (1989)<sup>7</sup> evaluated the oral health knowledge and attitudes of elementary school teachers in rural and urban areas and concluded that although teachers knew about the importance of oral hygiene maintenance in prevention of dental caries the knowledge was incomplete.<sup>7</sup> Mota et al (2016)<sup>8</sup> evaluated oral health, knowledge, attitudes and approaches of pre-primary and primary school and observed that teachers demonstrated incomplete knowledge on oral health and inappropriate practices.<sup>8</sup>

After the teacher training programme their knowledge showed a statistically significant increase regarding the

cause of dental caries as well as the fact that not maintaining proper oral hygiene led to development of oral diseases. However, even after the programme they seemed to lack knowledge on the effects of tobacco chewing on oral health and tissues. A similar study by Khurana et al (2020)<sup>9</sup> made use of training manual and private sessions for the teacher training programme and evaluated the knowledge before and after the programme. A significant increase in the mean knowledge scores of the teachers was seen after the programme.<sup>9</sup>

Nayandindi et al (1995)<sup>10</sup> evaluated different teacher training programmes for education primary school teachers where one group of teachers were trained through workshops and the other group of teachers were provided a manual for self study. The results showed that the primary school teachers that were trained through workshops improved remarkably the quality of their oral health education sessions.<sup>10</sup>

The evaluation of practices showed that around half the people placed importance on dental treatment, but very few followed proper practices for dental hygiene such as use of the correct toothbrush. No significant changes were seen in the practices of the individuals after the training programme.

More importance needs to be placed on the need to incorporate oral health into the curriculum of the teachers.

The teacher training programmes planned should be interactive and should make good use of audio-visual aid, which in turn will enable the teachers to execute well planned programmes for the students. The teachers need to be made aware of the importance of good oral hygiene and oral diseases and also the importance of the roles they play in influencing the young minds in this regard.<sup>11</sup>

## V. CONCLUSION

Within the limitations of this study it can be concluded that the school teachers held knowledge about oral health and diseases but it was incomplete. The teacher training programme held did improve their knowledge and attitudes to some extent however, motivation to improve their current practices regarding their oral health remained lacking. Thus, assessment of the needs of a specific area should be done to formulate a customized teacher training programme that focuses on the weaker points.

The educational approach is a major means for achieving change in oral health practices and the recognition of the oral health needs and includes motivation, communication and reinforcement.<sup>12</sup>This tool when harnessed properly can achieve great benefits for oral health promotion.

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