Effectiveness of An Oral Health Care Workshop in Primary School Teachers of Barakahu; A Pilot Study

Sheze Haroon Qazi, Rubina Mumtaz*, Saba Masoud, Rabia Tassaduq

Islamabad Medical & Dental College Islamabad Pakistan, *Rawal Institute of Health Sciences Islamabad Pakistan

ABSTRACT

Objective: To assess the effectiveness of an oral health care workshop in enhancing the knowledge of primary school teachers Study design: Quasi-experimental study.

Place and Duration of Study: Primary schools of Barakahu, from Feb to Jun 2019.

Methodology: This pilot study was carried out among who attended a training workshop on oral health at various primary schools of Barakahu. Training methods included didactic lectures, demonstrations and audio-visual aids. Scores were graded pre and post workshop as poor, fair and good knowledge. Evaluation was done to assess the effectiveness of the training.

Results: Out of 40 participants, 78% had good pre-training knowledge as compared to 83% after the training. As our data was not normally distributed therefore, we applied, Wilcoxon signed ranks test to check the change in the questionnaire scores (pre- and post-workshop). Among the 40 participants, 30 had a higher score post-workshop, while 7 had the same score and 3 participants had the lower score (p-value <0.001).

Conclusion: The study concluded that a training workshop was an effective tool for improving the knowledge of primary school teachers regarding oral health.

Keywords: Barakahu, Effectiveness, Oral health training workshop, Teachers.

How to Cite This Article: *Qazi SH, Mumtaz R, Masoud S, Tassaduq R. Effectiveness of An Oral Health Care Workshop in Primary School Teachers of Barakahu; A Pilot Study. Pak Armed Forces Med J 2022; 72(1): 115-118. Doi: https://doi.org/10.51253/pafmj.v72i1.5440*

INTRODUCTION

Oral health is the window to our general well-being. Oral health not only affects what we eat, chew and taste but also has a significant effect on our psychological and physical health.[1] Therefore, the quality of our life is highly dependent on our oral health. The high cost, inaccessibility and unavailability of dental treatments are limitations that lead to a low utilization of dental facilities.

In recent years, a lot of focus has been projected on health education for this purpose.[2] School based community interventions are the cost effective methods to help prevent oral disease.

Poor knowledge regarding causes and prevention of oral diseases among children, their parents and teachers in many countries leads to the progression of oral diseases.[3] Thus depending on the target population oral health education can include educational interventions for children, parents, policy makers or health care providers.

The global burden of disease study, assessed that 2.3 billion people have caries of permanent teeth and more than 530 million children suffer from caries of primary teeth.[4]

Schools are the ideal setting, providing an environment for the learning and reinforcement for a substantial period of time. Worldwide over 1 billion children can be targeted using this effective platform for oral health promotion.

During this dynamic developmental period, the children are very impressionable and receptive to change. They spend almost one third of their day at school.[5] The dental knowledge of schoolteachers, has considerable importance and has been internationally recognized to play a potential role in school-based dental education.[6]

Globally schoolteachers have been trained and effectively utilized as a tool to improve oral hygiene in school children.[7,8] An Indian study concluded that if the teachers are trained appropriately and supported by the dentists they can bring about a change in the attitude and behavior of students.[9] A local study conducted in public and private schools of Rawalpindi showed that the role of teachers in educating children was essential with 95.45% private school teachers and 79.2% public school teachers agreeing with the notion.[10]

In order to control the progression of caries in young children the most cost effective and feasible

Correspondence: Dr Sheze Haroon Qazi, Assistant Professor, Department of Community Dentistry, IMDC, Islamabad Pakistan

Received: 05 Oct 2020; revision received: 02 Jan 2021; accepted: 13 Jan 2021

method would be to train and use primary school teachers to impart oral health knowledge and improve the oral health of children.

METHODOLOGY

The quasi-experimental study was conducted from Feb to Jun 2019 amongst 40 primary school teachers from Barakahu selected through convenient sampling technique. After the approval of the Internal Review Board (IMDC/DS/IRB/160) an oral health care workshop was conducted amongst the primary school teachers of Barakahu.

Inclusion Criteria: The primary class teachers of Barakahu who consented to participate, were included in the study.

Exclusion Criteria: Teachers who were either absent or handed over incomplete questionnaires were excluded from the study.

The workshop utilized the modified version of American dental Association's "Learning about your oral health: a prevention oriented school program", aided with audio visual aids, demonstration on models and didactic lectures.[11] The research team members including students, faculty and house officers were trained on giving demonstrations on models in context with the workshop components like tooth brushing, comparison of healthy and unhealthy food along with audio visual aids.

A pre-tested questionnaire regarding knowledge, attitude and practices of primary school teachers was used.[12] The knowledge section comprising of 22 items, was utilized for the present study. That section of the questionnaire was checked for the internal reliability. The Cronbach alpha value was found to be 0.824.

Prior to the training, all the participants were given the questionnaire. The research team members comprehensively explained each question to the participants before they filled out the form. Once filled, the forms were collected and the workshop was commenced. Post-test was carried out 30 minutes after the training with the same questionnaire that was used in the pre-test.

Statistical Package for Social Sciences (SPSS) version 22 was used for the data analysis. Upon applying the test of normality on the difference of pre and post knowledge scores, we found that our data was not normally distributed (*p*-value for Shapiro Wilk test <0.001). Thus, we chose to apply non-parametric test i.e., Wilcoxon signed ranks test to check the change in the questionnaire scores (pre and post–workshop).

RESULTS

A total of 40 primary school teachers from Barakahu participated in our study. Of these, 19 (47.5%) teachers were from the Smart School, 7 (17.5%) were from Ibn-Ul-Haysum and 14 (35%) were from Educators. There were only two (5%) male teachers in our study sample, the remaining 38 (95%) were females. A quarter of our sample (11) consisted of preschool teachers, while the rest of them taught grade 1 and above.

Among the 40 participants, 30 had a higher score post-workshop, while 7 teachers had the same score and 3 participants had a lower score (Table-I & II). These changes in scores were statistically significant (*p*-value <0.001).Thus, we concluded that the workshop was effective in increasing the overall knowledge of primary school teachers regarding oral health.

Table-I: Descriptive statistics.

	Median Score	Interquartile Range (IQR)
Pre Workshop	19	8
Post Workshop	22	5

Table-II: Result of wilcoxon signed rank test.

	Ranks	Interpretation of Rank	No. of Participants	*p*-value
Post score sum-Pre score sum	Positive Rank	Post score >Pre Score	30	<0.001
	Negative Rank	Post score <Pre Score	3	
	Tie	Post score= Pre Score	7	
	Total		40	

The enhancement in knowledge regarding the causes of irregular tooth brushing and the presence of fluoride in toothpaste both showed a substantial increase from 53-80% and 60-95% respectively. In pre-workshop only 52% of the teachers had awareness that toothpick usage is not recommended for food removal compared to 78% in post-workshop. Even though more than half of the teachers (75%) knew that oral health had a significant role regarding general health but post training almost all of them 37 (93%) knew about its importance. Similarly, most of the teachers were aware about cleaning and polishing of teeth in pre-workshop. Regarding reasons for dental decay the improvement in knowledge was from 50-68% (Table-III).

The knowledge scores were categorized as poor (score values <50%) fair (score values 50-60%) and good (>60%) to assess the level of knowledge.[12] Overall

the knowledge scores showed improvement as the percentage of teachers having good knowledge increased from 78-83% (Table-IV).

Table-III: Percentage increase in teachers' knowledge, pre and post-workshop.

Questions	Pre workshop (%)	Post workshop (%)
K1: Role of oral health regarding general health	75	93
K2: What does irregular brushing cause (all stems included)	53	80
K3: Reason for dental problems (all stems included)	50	68
K4: Prevention of dental problems (all stems included)	53	70
K5: Awareness about cleaning and polishing of teeth	88	93
K6: Awareness regarding toothpaste in fluoride	60	95
K7: Awareness regarding floss	28	88
K8: Awareness regarding toothpick	53	78
K9: Awareness regarding the benefit mouth cleaning (all stems included)	45	65

Table-IV: Over all knowledge training pre and post workshop.

Knowledge Scores	Pre Workshop n (%)	Post Workshop n (%)
Poor Knowledge (<50%)	7 (17)	7 (17)
Fair Knowledge (50-60%)	2 (5)	-
Good Knowledge (>60%)	31 (78)	33 (83)

DISCUSSION

The results of the study showed that a training workshop on oral health was an effective tool for enhancing the knowledge of teachers.

Teachers influence the child's behavior, decision making and reasoning.[13] Majority of the teachers in our study had good knowledge regarding oral health prior to the workshop. This was not a similar finding to a study conducted at a Public Dental Institute of Karachi, Pakistan which concluded that teachers had poor knowledge regarding dental diseases and etiology of tooth decay.[14] A KAP study conducted in Rawalpindi Pakistan, concluded that only 21.6% teachers in private primary school and 12.8% in public schools knew about the importance of dental examination done every 6 monthly without any complaint.[15] In our study, almost half of the teachers had knowledge regarding the consequences of irregular brushing. For the question regarding prevention of dental problems only 65% of the teachers were aware that avoiding sweets and sugar can prevent dental problems. An Indian study on primary school teachers also concluded that awareness regarding sugar and bacteria as causative agents for dental problems was lower (47%) as compared to knowledge about regular brushing and snacking (53.5%).[16] In this study, questions regarding the benefits of regular cleaning and dental floss particularly showed the low scores. The observation can be resonated with a study in Lagos that concluded that tertiary educated female respondents with a higher socioeconomic status had a significantly more positive attitude and awareness regarding dental floss.[17]

Fluoride has been established as a single most cost effective method for preventing tooth decay whether it is in compounds such as mouth rinses toothpastes or in water.[18] Thus, it was essential to determine the teachers' knowledge regarding fluorides. In our study, more than 50% of the teachers were aware of fluoridated toothpastes that were similar to studies conducted in South Africa,[19] and India.[20]

Educating teachers about the importance of oral health is the need of the hour as they can in turn equip their students with sufficient knowledge. The outcomes of our study highlight the fact that an oral health care training workshop can significantly enhance the knowledge of primary school teachers. These teachers in turn can effectively steer their students' knowledge attitude and practices regarding oral health in a positive direction. The concept of oral health awareness should be a part of the regular curriculum in all schools at primary level. But for that the teacher should be well-trained and knowledgeable about oral health. If teacher training workshops on oral health are made a mandatory component of community dentistry curriculum in all the dental school of Pakistan these teachers will have the advantage of learning from trained professionals. This will not only benefit the teachers and their students but will have a ripple effect on the wider community as well.

CONCLUSION

The study concluded that a training workshop was an effective tool for improving the knowledge of primary school teachers regarding oral health

Conflict of Interest: None.

Authors' Contribution

SHQ: Conduction of workshops, collection of data, write up and final drafting, RM: Conception of idea, SM: Assistance in workshops, collection of data, analysis and write up, RT: Write up, initial draft.

REFERENCES

1. Baiju RM, Peter E, Varghese NO, Sivaram R. Oral health and quality of life: current concepts. J Clin Diagn Res 2017; 11(6): ZE21-ZE26.
2. Nakre P D, Harikiran A G. Effectiveness of oral health education programs: asystematic review. J Int Soc Prev Community Dent 2013; 3(2): 103–105.
3. Al-Tamimi, Petersen PE. Oral health situation of schoolchildren, mothers and schoolteachers in Saudi Arabia. Int Dent J 1998; 48(3): 180-186.
4. GBD 2017 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990-2017: A systematic analysis for the Global Burden of Disease Study 2017. Lancet 2018; 392(10159): 1789-1858.
5. Mota A, Oswal KC, Sajnani DA, Sajnani AK. Oral health knowledge, attitude, andapproaches of pre-primary and primary school teachers in Mumbai, India. Scient 2016; 2016(6): 1-8.
6. Sgan-Cohen HD, Saadi S, Weissman A. Dental knowledge and attitudes among Arab school teachers in northern Israel. Int Dent J 1999; 49(5): 269–274
7. Petersen PE, Kwan S. Evaluation of community-based oral health promotion and oraldisease prevention-WHO recommendations for improved evidence in public health practice. Comm Dent Health 2004; 21(4): 319–329.
8. Haloi R, Ingle NA, Kaur N. Comparing the oral health promoting role and knowledge of Government and Private Primary School Teachers in Mathura City. Int J Sci Study 2014; 1(5): 9-14.
9. Ramroop V, Wright D, Naidu R. Dental health knowledge and attitudes of primary school teachers toward developing dental health education. West Indian Med J 2011; 60(5): 576-580.
10. Sajjad S, Rehman M, Roshan R. Knowledge attitude and practices regarding oral health in public and private schools in Rawalpindi. Pak Armed Forces Med J 2016; 66(3): 371-376.
11. Maganur P C, Satish V, Marwah N, Vishwas TD, Dayanand MC. Knowledge, attitude and practices of school teachers towards oral health in Davangere, India. Int J Clin Pediatr Dent 2017; 10(1): 89-95.
12. Dedeke AA, Osuh ME, Lawal FB, Ibiyemi O, Bankole OO, Taiwo JO, et al. Effectiveness of an oral health care training workshop for school teachers: a pilot study. Ann Postgrad Med 2013; 11(1): 18–21.
13. Nyandindi U, Palin-Palokas T, Milén A, Robison V, Kombe N, Mwakasagule S. Participation, willingness and abilities of school -teachers in oral health education in Tanzania. Comm Dent Health 1994; 11(2): 101-104.
14. Narendar D, Ashar A, Sobia B. Oral health knowledge, attitude and practicesamongst teachers of public school set-up of Karachi, Pakistan. J Dow Uni Health Sci 2013; 7(1): 15-19.
15. 15.Sajjad S, Rehman MU, Roshan R. Knowledge, attitude and practices of primary school teachers regarding oral health in public and private schools of Rawalpindi. Pak Armed Forces Med J 2016; 66(3): 371-376.
16. Sekhar V, Sivsankar P, Easwaran MA, Subitha L, Bharath N, Rajeswary K, et al. Knowledge, attitude and practice of school teachers towards oral health in Pondicherry. J Clin Diagn Res 2014; 8(8): ZC12-ZC15.
17. Oyapero A, Owoturo EO. Factors associated with knowledge and attitude to theuse of dental floss at some private and public dental clinics in Lagos State. Edorium J Dent 2016; 33(3): 12-20.
18. Sgan-Cohen HD, Saadi S, Weissman A. Dental knowledge and attitudes amongArab school teachers in northern Israel. Int Dent J 1999; 49(5): 269-274.
19. Chikte UM, Brand AA, Gilbert L. Suitability of teachers as oral health educators. J Dent Assoc S Afr 1990; 45(10): 429-432.
20. Maganur PC, Satish V, Marwah N, Vishwas TD, Dayanand C. Knowledge, attitudes, and practices of school teachers toward oral health in davangere, India. Int J Clin Pediatr Dent 2017; 10(1): 89-95.