

## KNOWLEDGE, ATTITUDE AND PRACTICES OF PRIMARY SCHOOL TEACHERS REGARDING ORAL HEALTH IN PUBLIC AND PRIVATE SCHOOLS OF RAWALPINDI

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### ABSTRACT

**Objective:** The study was carried out to assess the knowledge, attitude and practices of school teachers of primary schools regarding oral health and their participation in oral health education.

**Study Design:** This was a cross sectional analytical study.

**Place and Duration of Study:** The study was carried out at public and private Primary Schools of Rawalpindi city from 01 June 2014 to 25 November 2014.

**Material and Methods:** There were 351 private schools in the Rawalpindi city. In public sector, F.G public schools of Rawalpindi city were selected from the list provided by the F. G Directorate. The list had total 70 public schools and schools are selected because of they are the main part of the community. The sampling technique is the "multistage sampling." It is a type of probability sampling. In the first stage, sampling frame was developed by listing of public and private primary schools of Rawalpindi city followed by the computer generated random sampling. In the next stage, teachers were selected by using random lottery technique.

**Results:** 105(60%) teachers out of 173 public schools teachers did not know about dental caries at all. 8(4.5%) of public school teachers wrote that caries is the enamel defect. 44 (25.1%) teachers of private schools were unaware of the term dental caries. 65(37.1%) teachers correctly stated dental caries as the tooth destruction due to bacterial action which is higher than public schools. 120(68.2%) of private school teachers reported that they prefer tooth brushing at morning and night as compared to the 106(61.3%) public teachers. Practices regarding oral health was significant  $p < 0.001$ . Oral health education is being practiced in private schools in one form or the other. The study revealed a lot of important findings which needs further studies to be carried out.

**Conclusion:** More studies are to be done in schools regarding oral health so that policy can be made to cover all the areas for maximum results. Time and financial resources was the limitations of the study.

**Keywords:** Oral Health, Oral Health Promoting Schools, Teachers Oral Health knowledge

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### INTRODUCTION

Oral health cannot be separated from general health. Both are integral part of one another. The oral health situation throughout the world is quite alarming, as oral diseases are becoming chronic with the passage of time. Dental caries (tooth decay) and periodontal disease are most common, these if untreated can lead to tooth loss. Not a single nation is free of dental caries. According to WHO, 60-70% of school going children are suffering from the oral diseases<sup>1</sup>. The possible etiological factors causing these oral diseases are multiple which includes genetic

predispositions, developmental problems, poor oral hygiene and traumatic incidents<sup>2</sup>.

The global distribution and severity of the dental problems is also different in different regions. It has been seen in many epidemiological surveys that oral diseases and health involves social and behavioral factors along with the significant role of the environment as well<sup>3</sup>.

The promotion of health through school has been an important goal of WHO, UNICEF, UNESCO and other international agencies since 1950's to encourage participation of education and health institutions and agencies in promotion of health through schools<sup>4</sup>. The Global school health initiative<sup>5</sup> (1995) is working for mass education of children through the school premises. Teachers' participation has made a

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remarkable difference in promoting oral health education throughout the world.

Studies have been conducted internationally on the oral health education and teachers participation in it. The results differ according to the region and

and oral health with other activities in the school. This leads to the overall low costs associated with such programs<sup>8</sup>. A review from the Health promoting Schools support the idea that a well linked health program with curriculum has a long lasting beneficial

**Table: Comparisons between public and private school teachers with different variables.**

Variables	Frequency of private school teachers (n)	Percentage of private primary school teachers	Frequency of public school teachers(n)	Percentage of public primary school teachers	p-value
Frequency of visit to the dentist	138	78.40%	133	76.87%	$p=0.731$
Recommend frequency of tooth brushing	120	68.2%	106	61.3%	$p=0.018$
Frequency of tooth brushing practiced by teachers	138	78.40%	118	68.20%	$p=0.031$
Frequency of change of tooth brush	156	88.63%	131	75.72%	$p=0.001$
Common dental complain (toothache)	81	46.02%	122	70.52%	$p=0.001$
Source of information (TV media)	82	46.6%	110	63.6%	$p=0.001$
Awareness about fluoride in tooth pastes	134	76.13%	94	54.33%	$p=0.001$
Oral hygiene checking	121	68.75%	68	39.30%	$p=0.001$
Practices adapted for oral health education in schools (Dentist visit)	93	52.84%	10	5.8%	$p=0.001$
Oral health awareness program	93	52.8%	12	6.93%	$p=0.001$
Vital role of teachers in creating awareness	168	95.45%	137	79.2%	$p=0.001$
Measures adapted for prevention of oral diseases (include all options)	122	69.31%	95	54.91%	$p=0.006$

depend on resources, knowledge, commitment and social factors. The oral health knowledge of primary school teachers has shown satisfactory results in most of the studies worldwide. In Tanzania, teachers in primary schools integrate oral health promotion activities in the school curriculum<sup>6</sup>. Teachers in many other countries e.g. China, Poland, Romania, Kuwait, Thailand and Cambodia were in favor of children' oral health and were happy to play a part in oral health education<sup>7</sup>.

The teachers' participation in school health education and health promotion has many advantages. It does not provide only continuity in instructions being given but also provides integration of general

effect on the health of children. There is a considerable evidence to support the effectiveness of well-conducted school-based oral health promotion interventions worldwide. In the region of the Americas, the US Surgeon General Report documents that most school-based or community based oral health preventive interventions are beneficial and cost-effective<sup>9</sup>.

Pakistan being a developing country, has been practicing school health program but with limited accessibility and continuity. In June 2005, school health program was launched in 17 district of Pakistan by National Commission for Human Development<sup>10</sup>, Bill and Melinda Gate Foundation funded it. It covered

23,266 primary schools of the districts and gave benefits to 1.83 million students. There is great disparity in public and private schools in terms of implementation of oral health education as no single policy exists in this respect. This study is a contribution in the assessment of the oral health knowledge of primary school teachers and the reasons of limited participation of teachers in oral health education.

**MATERIAL AND METHODS**

This was a cross sectional analytical study

regarding oral health knowledge, attitude and practices of primary schoolteachers in private and public schools of Rawalpindi city. . In public sector, F.G public schools of Rawalpindi city were selected from the list provided by the F. G Directorate. The list had total 70 public schools. There were 351 private schools in the Rawalpindi city. The sampling technique is the "multistage sampling" and the sampling frame was developed by listing of public and private primary schools of Rawalpindi city and school selected by computer generated technique. Equal number of

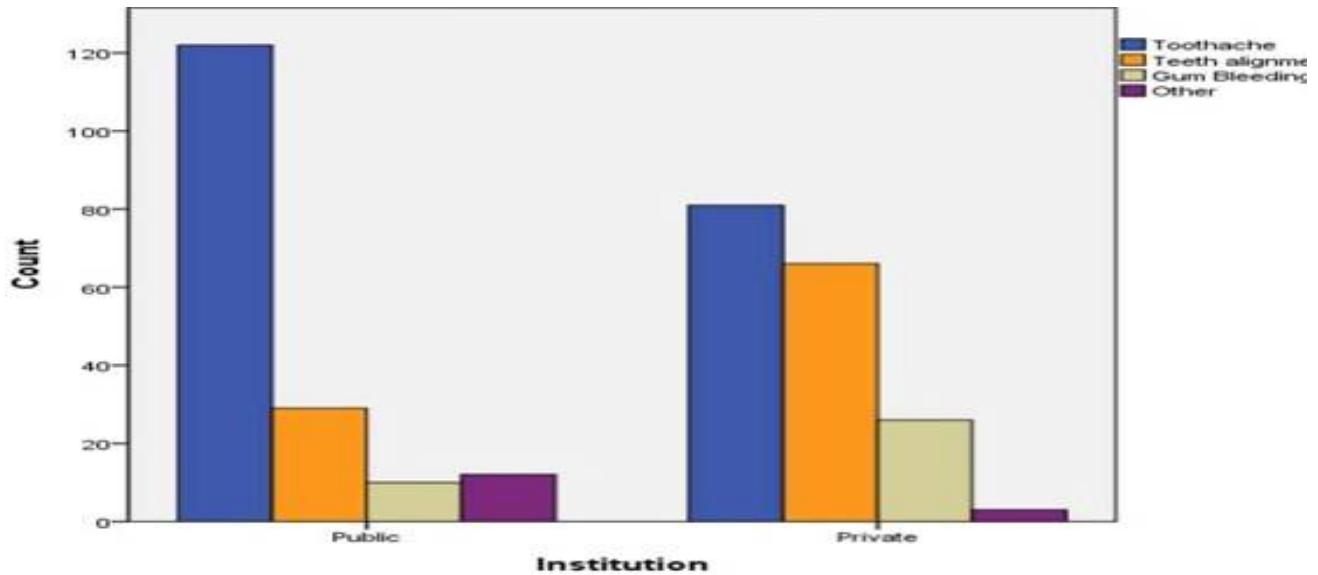


Figure-1: Showing the count of primary teachers presenting with different oral complaints.

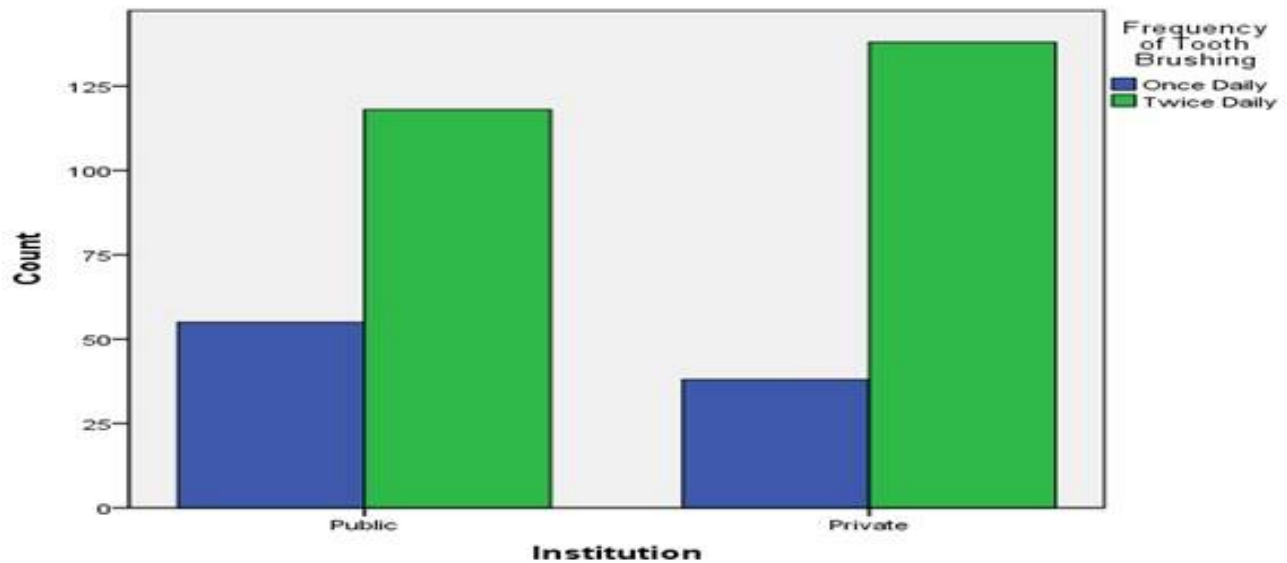


Figure-2: Bar chart showing the counts of frequency of tooth brushing in public and private school teachers.

sample was taken from each selected school. Twelve schools from each list were selected by random allocation technique. In the second stage of the sampling, lists of primary classes were collected from the previously selected school both from private and public schools. Fifteen primary schools teachers from each school were considered randomly by lottery technique. The sample size was calculated by keeping in mind the previous prevalence of oral health knowledge of the primary school teachers in Pakistan. The estimated sample size was 355 in which half were from private schools and half were taken from public schools i.e. 178 from private sector and 177 from public. The duration of the study was 6 months. It was started in 01 June 2014 to 25 November 2014. The questionnaire comprised of open ended questions for oral health knowledge of caries and gingivitis, age and income. The closed ended variable included recommended frequency of dental visits, recommended practice of tooth brushing, frequency of change of tooth brush, common dental complaints, sources of information, oral health awareness program, oral hygiene checking in assembly and practices adapted in schools for oral health education. The data was analyzed by using statistical package for social sciences 19 (SPSS, V 19) software. Chi-square test was applied for the comparison a p-value <0.05 considered as a significance value.

## RESULTS

The response rate was 98.03% of this study as 349 out of 355 teachers responded. 173 was from public schools and 176 from private schools. The mean age of primary teachers of public schools was  $37.78 \pm 8.868$  SD<sup>12</sup> that of private schools came to be  $27.94 \pm 6.371$  SD. The mean income of public school teachers was  $33,405 \pm 28067.07$  SD rupees and that of private schools was  $18,990 \pm 14252.24$  SD. 100% primary teachers of public and private schools agreed that oral cavity is important part of human body.

The study revealed the difference in percentage of oral health knowledge of the public and private school teachers. 105 (60.7%) teachers out of 173 public schools teachers did not know about dental caries at all which is equivalent to the study done in public school of Karachi with 62 (61%) of the respondent had no knowledge about the dental decay<sup>11</sup>. 25 (14.45%) of the total teachers gave correct answer. Only 10 (5.8%) respondents knew about bacterial involvement. On the other hand 44 (25%) teachers were unaware of the term dental caries in private schools which is less than the

public teachers. 65(36.93%) teachers correctly stated dental caries as the tooth destruction due to bacterial action leading to destruction of tooth structure. 31 (17.61%) teachers said it is cavity formation and 15(8.52%) stated it as tooth pain and inappropriate brushing. Regarding gingivitis, 55(31.8%) public school teachers were unaware. 39 (22.54%) teachers described it as inflammation of the gums. 34(19.65%) public teachers named it as bleeding and swollen gums.

One hundred and nineteen (67.61%) private school teachers knew gingivitis as inflammation, bleeding of gums or swollen gums, which was very encouraging. On the other side, public school teachers 84 (48%) knew gingivitis as gum disease.

Thirty eight (21.6%) teachers in private primary school reported routine dental examination done every 6 month without dental complain as compared to the 22 (12.8%) public school teachers which was an encouraging thing as majority of public school teachers pay visit to the dentist whenever problem arises. The most common dental complain was toothache in both the groups but teeth alignment was the reason of visit to the dentist in 66 (37.5%) of private school teachers. This showed their concern for aesthetics as compared to the 29(16.8%) public school teachers.

Ninety three (52.84%) of private school teachers said that oral health education is provided by visit of dentist in their schools as compared to the 10 (5.8%) in public schools. 43 (24.85%) teachers of public school said that it is the responsibility of parents alone. Oral health awareness was in the curriculum of private schools as compared to the 12 (6.93%) public schools. 124(71.7%) public school teachers responded negatively to this practice.

Comparison also revealed that 102(58%) private school teachers change their tooth brush once in 3 months compared to the 74 (42.8%) of public school teachers. Twenty nine (16.8%) public school teachers changed it every 6 months as compared to the 19 (10.8%) private teachers and 14 (8.1%) public school teachers change their tooth brush after one year. On the other side, private teacher showed 0% in this regard. ( $p < 0.001$ )

Regarding the role of teachers in oral health education, 168(95.45%) private school teachers said its very important as compared to the 137 (79.2%) public school teachers. 21 (12.13%) teachers of public school said that this is the responsibility of parents. This was a very important finding as far as attitude of respondents was concerned towards oral health

education. 77 (43.75%) private teachers got information from training and workshops at their respective schools as compared to the 37 (21.4%) public sector, ( $p < 0.001$ ).

Oral hygiene checking in school assemblies, 121 (68.75%) private school teachers said they do the checking along with the nail and general hygiene as compared to the 68 (39.30%) in public schools, ( $p < 0.001$ ). Oral health education was being practiced in private schools to some extent. On the other side, public schools focus more on academics rather than health. Frequency of visits by the dentist and workshops were limited or mostly absent.

## DISCUSSION

Oral health education is one of the effective preventive mean of creating awareness about dental diseases. Good oral health knowledge is required for this reason. This study showed poor oral health knowledge of public primary school teachers and lack of their participation in oral health education as compared to private sector. Attitude of the teachers of both groups was good as far as brushing and change of tooth brush was concerned. Teachers who changed tooth brush every month were also added with the one change it after 3 months which is ideal. The percentage of one hundred and thirty public respondents was 75.14% and of private schoolteachers was 89.20%. Toothache was the most common dental complaint in both the groups. In one of the study in Andhra Pradesh, 58.6% teachers visited dentist with complain of toothache and 63% did brushing twice daily<sup>12</sup>. In our study, 70.5% teachers went to the dentist with the same complaint and 68.2% responded that they were brushing twice daily.

Oral health education was being practiced in private schools. 93 (52.84%) of private school teachers said that oral health education was provided by visit of dentist in their schools as compared to the 10 (5.8%) public schools. 43 (24.85%) teachers of public school said that it was the responsibility of parents. In Bhopal study<sup>13</sup>, the finding showed that private and public teachers had attempted to give oral health education. 90% of the teachers agreed that the lectures were beneficial to the children. 34% school teachers responded positively to the delivery oral hygiene practices with the student while 63% teachers responded negatively and the main reason was lack of school authority interest and policy. In present study, oral health awareness program was being implemented in 93 (52.8%) private schools as quoted

by the teachers as part in their curriculum as compared to the 12 (6.93%) public schools. 124 (71.7%) public school teachers responded negatively to this practice. ( $p = 0.0001$ )

## CONCLUSION

Pakistan is a developing country which calls for an inter-sectoral collaboration in promoting oral health. More studies needs to be done on schools, teachers and students to get to the problem in details. This study revealed that the public and private schools have different constraints in the oral health education implementation. Public schools have not mentioned oral health education in their policy and their oral health knowledge needs to be raised through workshops. The encouraging thing is that teachers are willing to work for oral health education. Inclusion of oral health in curriculum will benefit the students and is easy for teachers to practice in limited resources. Further studies are recommended on larger scale.

## AUTHORS CONTRIBUTIONS

Sadia Sajjad, involved in literature review, study design, development of data collection tools, data collection, data analysis, article writing and proofing, Mahmood Ur Rahman, involved in development of data collection tools and proofing, Rukhsana Roshan involved in data analysis.

## CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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