

RESEARCH ARTICLE

ASSESSMENT OF KNOWLEDGE, AWARENESS AND ATTITUDE OF SCHOOL TEACHERS OF KAPADWANJ TALUKA TOWARDS ORAL HEALTH- A QUESTIONNAIRE STUDY

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..... Abstract

_____ Objective: Schools and teachers are the vital source of guidance pertaining oral health in students. Oral health education given in early life has lifelong effect on person. Hence, this study aims to evaluate the knowledge, awareness and attitude of primary and middle school teachersconcerning oral health of Kapadwanj Taluka.

Materials and Methods: This cross-sectional study was conducted ongovernment schoolteachers of Kapadwanj taluka, Gujarat. Data of responses to 11 close ended, self-structured questionnaire assessing knowledge, awareness and attitude towards oral health was collected and entered in computer software. The frequency and percentage of data for all three sections were evaluated.

Results: Total 148 primary and middle school teachers were enrolled in study without gender preference.98.6% teachers had good awareness,63.5% of them were with average knowledge while only 46.6% had favorable attitude.Distribution in gender showed almost equal knowledge and awareness in male and female teachers with comparatively more favorable attitude in male teachers. Among primary and middle school teachers, primary teachers showed better knowledge and awareness.

Conclusion: Most of the teachers showed satisfactory knowledge in some aspects of oral health, although improvements can be implemented by regular teacher training, such as oral health seminars and material activities. These fundamental measures empower and supports teachers to effectively convey oral health education to students and scociety.

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Introduction:-

Health is a universal human need for all cultural groups. As defined by World Health Organization (WHO), oral health is state of the mouth, teeth and orofacial structures which enables an individual to eat, speak and socialize without active disease, discomfort, or embarrassment. It is intricately connected to one's overall health and has a profound impact on an individual's capacity to actively engage in society and achieving their potential.

As peranalysis for Global Burden of Disease 2017, there are estimated to be more than 3.5 billion cases of oral diseases and other oralconditions, most of which are preventable.¹ For that preventive activities are being executed

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within various divisions of society by dental professionals. School is an important platformfor such activities as each familycan be made aware by educating the students. As per the saying "reap what you sow", school-going age is the most influential period of life. Children develop skills, beliefs, and attitudes which they practice throughout their lives during these years.² Teachers being first one to impart education regarding oral health plays a key role in students' life. They have a great potential to integrate general and oral health education into other activities, seamlessly to ensure the consistent delivery of instructions to community, all while keeping the cost minimal.^{4,5}

The Ministry of Health and Family Welfare, Government of India hasextended minimum oral health to the entire Indian population, in national health policy, 1995.⁶Later they havelaunched the National Oral Health care Program (NOHP) which envisaged the implementation of oral health education, preventive and curative services as well.⁷ NOHP aims to strengthenpublic health facilities of country for an accessible, affordable, and quality oral health-care delivery. One of the key objectives of this program is to train the personnel from various sectors such as health workers, Anganwadi workers, ASHAs (accredited social health activist), nursing staff, and school teachers for the promotion of oral health.⁸

Hence, need of hour is to have aknowledge on role of teachers in oral health care specifically for small cities where people are more likely to have less access to dental care. Against this background the study was undertaken with objective of assessing knowledge, awareness and attitude of primary and middle school teachersconcerning oral healthinKapadwanj talukasituated in Kheda district of Gujarat state, India.

Materials and Methods:-

After approval by the Institutional Review Board, AMC Dental College, Ahmedabad and obtaining permission fromgovernment primary and middle schools of Kapadwanj Taluka, study was conducted in the form of online surveyin March and April 2022. Only those teacherswho agreed to give informed consent were included while visiting teachers were excluded from study. Total 148 teachers from 56 schools were selected by simple random sampling. Online questionnaire forms weresenttoteachers via social networking platform. Validation of questionnaire and translation was done beforehand by conducting pilot study in 15 teachers.

Questionnaire Design:

11 closed-ended questionnaires wereprepared in English and Guajarati languages. Apart from demographics, questions regarding general as well as systemic factorsimpacting oral health, oral cancer, oral health care routine andoral health promotion in community were divided into three categories- knowledge, awareness and attitude towards oral health. Along with the informed consent, participant information sheet was prepared mentioning purpose of study.

Collected data were entered in computer software for analysis. Independent percentages were calculated for each section to determine the frequency of the responses. Results were calculated and compared for each section and category.

Results:-

All the 148 responses were received in Gujarati language. Average age of teachers was 43.26 ± 7.54 years ranging from 27 to 58 years. Demographic data showed that majority of participants were male (64.9%) compared to female teachers (35.1%). 68(45.9%) were primary school teachers teaching in class 1-5 whereas 80(54.1%) were middle school teachers teaching in Classes 6-8. Majority of teachers were well aware and acquainted with fair knowledge regarding oral health. Table 1 summarizes the responds of teachers for each question about knowledge, awareness and attitude towards oral health.

| Questions | Frequency | Percentage |
|---------------------------------------|-----------|------------|
| Knowledge about causes of tooth decay | | |
| Dental plaque | 114 | 77 |
| Sugar consumption | 57 | 38.5 |
| Bacteria | 39 | 26.4 |
| Other | 1 | 0.7 |
| Knowledge about causes of gum disease | | |
| Plaque and tartar build up | 70 | 47.3 |
| Lack of nutritious food | 60 | 40.5 |

Table 1:- Knowledge, awareness and attitude of teachers towards oral health.

| Bacterial infection | 67 | 45.3 |
|---|-----|------|
| Knowledge about oral cancer and tabaco | 131 | 88.5 |
| Improper dental care leads to | | |
| Tooth decay | 27 | 18.2 |
| Gum disease | 15 | 10.1 |
| Both | 106 | 70.6 |
| Does health of tooth and mouth affect systemic health? | 93 | 62.8 |
| Awareness about diabetes and gum diseases | 44 | 29.7 |
| Awareness about brushing technique | 52 | 35.5 |
| How they maintain oral hygiene at home. | | |
| By brushing tooth only | 65 | 43.9 |
| Brushing and tongue cleaning | 78 | 52.7 |
| Brushing and using mouthwash | 5 | 3.37 |
| When they visit the dentist | | |
| On having toothache or pain in mouth | 105 | 70.5 |
| Every 6 months | 16 | 10.8 |
| Every 3 months | 8 | 5.4 |
| Never | 19 | 12.8 |
| When they change tooth brush | | |
| On noticing worn bristles | 14 | 9.5 |
| Every month | 47 | 31.8 |
| Every 3 months | 59 | 39.9 |
| Every 6 months | 28 | 18.9 |
| Guide children and their family about oral health at school level | 119 | 80.4 |

For assessment of knowledge 3 questions were asked related to causes of oraldiseases. Those having correct and incorrect knowledge were given a score of 1 and 0 respectively. All respondents with total score 3 considered having good knowledge, 2average and 1 poor knowledge. Figure 1 shows that 35.8% teachers had good knowledge compared to 63.5% had average and 0.7% were having poor knowledge. Table 2presents responds regarding knowledge of teachers distributed according to gender and grade level they teach in. Fairly equal percentage of female (38.5%: 19) and male (34.4%: 33) school teachers had good knowledge with equal distribution in primary and middle school teachers (64.7% and 62.5% respectively).





| Category | Knowledge | Frequency | Percent |
|-------------------------|-----------|-----------|---------|
| Male | Poor | 1 | 1.0 |
| | Average | 62 | 64.6 |
| | Good | 33 | 34.4 |
| | Total | 96 | 100 |
| Female | Average | 32 | 61.5 |
| | Good | 20 | 38.5 |
| | Total | 52 | 100 |
| Primary school teachers | Average | 44 | 64.7 |
| | Good | 24 | 35.3 |
| | Total | 68 | 100 |
| Middle school teachers | Poor | 1 | 1.3 |
| | Average | 50 | 62.5 |
| | Good | 29 | 36.3 |

Four questions were asked to assess awareness. Out of 4up to 3 score were given tolow awareness and score >3 considered good awareness.98.6% teachers had good awareness whereas only 1.4% teachers were having low awareness. (Figure 2).Table 3presents distribution of awareness in teachers gender wise and according to grade level they teach in. All female and all primary school teachers had a good awareness while 2 male (2.1%) school teachers had a low awareness.





| Category | Awareness | Frequency | Percent |
|-------------------------|-----------|-----------|---------|
| Male | Low | 2 | 2.1 |
| | Good | 94 | 97.9 |
| | Total | 96 | 100 |
| Female | Good | 52 | 100 |
| Primary school teachers | Good | 68 | 100 |
| Middle school teachers | Low | 2 | 2.5 |
| | Good | 78 | 97.5 |
| | Total | 80 | 100 |

Regarding attitude of teachers towards oral health care 4 questions were asked.53.4% teachers had unfavorable attitude and 46.6% hada favorable attitude as scores up to 2 were scaled as unfavorable and scores >2 considered favorable attitude. (Figure 3)Table 4depicts the distribution of teachers based on attitude according to gender and grade level they teach in. More male (59.4%: 57) teacher had favorable attitude compared to 42.3% (33) female teachers having favorable attitude. Distribution of teachers based on attitude and grade they teach in was almost equal for both arms.

Pearson correlationcoefficientbetween knowledge and awareness was -0.035 and, between knowledge and attitude is -0.087. It implies that no significant linear relationship found between knowledge and awareness or knowledge and attitude.(Table 5)





| Category | Attitude | Frequency | Percent |
|-------------------------|-------------|-----------|---------|
| Male | Favorable | 57 | 59.4 |
| | Unfavorable | 39 | 40.6 |
| | Total | 96 | 100 |
| Female | Favorable | 22 | 42.3 |
| | Unfavorable | 30 | 57.7 |
| | Total | 52 | 100 |
| Primary school teachers | Favorable | 37 | 54.4 |
| | Unfavorable | 31 | 45.6 |
| | Total | 68 | 100 |
| Middle school teachers | Favorable | 42 | 52.5 |
| | Unfavorable | 38 | 47.5 |
| | Total | 80 | 100 |

 Table5:- Correlation between oral health knowledge, awareness and attitude.

| Correlations | | | | |
|--------------|---------------------|-----------|-----------|----------|
| | | Knowledge | Awareness | Attitude |
| Knowledge | Pearson Correlation | 1 | 035 | 087 |
| | Sig. (2- tailed) | | .669 | .294 |

Discussion:-

This study provided detailed view of the primary and middle school teachers' knowledge,awareness and attitudeabout oral health. To the best of our knowledge present study was the first of its kind inKapadwanj.

Mean age of teachers instudy was 43 years which suggest teachers in this study have an experience of around 10-15 years. This is in unison with a study byVidya Sekhar et al.⁹

More school teachers knew about dental caries and oral cancer in comparison to periodontal disease. This finding was contradictory to the study done by Singh H et al in which more teachers had a good knowledge about periodontal disease.² 77% of respondentsagreed that lack of oral hygiene is principal cause for dental caries, 38.5% of all respondentsbelieves more sugar consumption causes dental caries. This finding indicatesbetter knowledge of teachers for dental plaque and oral hygiene in our study. Out of total number of respondents 48 (32.4%) teachers had knowledge of effect of tabaco on gums although 88.5% of them knew about tabaco causing oral cancer.62.8% teachers were aware about effect of oral and dental health on overall health and 29.7% were aware about association of diabetes with periodontal disease.

Regarding oral hygiene routine, 35.5% teachers were aware about proper brushing technique. More than half of teachers considers tongue cleaning necessary along with tooth brushing. 31.8% teachers change their tooth brush every month, 39.9% every three months, 18.5% every six months and only 9.5% changes tooth brush when they notice worn bristles. This is similar to study by Prabhadevi C Maganur et al.¹⁰

At 70.9 % of the time, teachers visit the dentist when they are in pain or have a toothache while only 16.2% see their dentist on regular bases. In developing countries like India, pain is traditionally the primary motivator for visiting a dentist or doctor rather than being concerned aboutpreventive care. In a survey conducted by Ehzille et al. in Nigeria¹², 48% of school teachers said there is no specific reason for not seeing the dentist, followed by high expense, fear, and lack of time.

Results as per the distribution in gender showed almost equal knowledge and awareness in male and femaleteachers with comparatively more favorable attitude in maleteachers. Among primary and middle school teachers, primary teachers showed better knowledge and awareness. There is a requirement of further study to evaluate possible factors which can help to improve teacher training program specific to this group of teachers.

Overall, 98.6% and 35.8% teachers had a good awareness and knowledge respectively but more than half of teachers had unfavorable attitude for oral health. As per Pearson correlation coefficient significant there is no significant linear association between Knowledge and awareness or between knowledge and attitude.

Multiplestudies have been conducted worldwide, highlighting the attitudes, knowledge, practices, and willingness of schoolteachers to promote oral health within school settings. Studies from Romania, China,Saudi Arabia, and United States of America have reportedpositive attitudes and knowledge on oral health amongteachers, and that they showed willingness to participatein oral health promotion.^{11,12}Results of our study were in par with study conducted by KA Kamala et. Al. in 2019,¹³inferred that overall oral health knowledgeand attitude was good with 88.67 % teachers having regular dental visits.Charu Khurana et. Al. carried out a study in the year,¹⁴ in which teachers' training program was conducted after initial questioner survey among 50 primary school teachers across the country. A significant increase in mean knowledge scores of school teachers was seen after a 1-day training program.

There is a possibility for bias, since it is a survey in which respondents are aware that it is conducted by dental professional and tend to provide responses more favorable or aligned with expectations of person conducting this survey. Though most of the teachers show satisfactory knowledge in some aspects of oral health, improvements can be implemented by regular teacher training, such as oral health seminars, materials, and other similar ways. These fundamental measuresempower and supportsteachers to effectively convey oral health education to young students.

Conclusion:-

Study infers that majority of teachers are well aware and acquainted with fair knowledge regarding oral health although have an attitude similar to the general public, with most of them tending to go to the dentist only whenin pain and not paying attention to any other oral cavity problems other than toothache. Hence, further workshops on implication of oral health knowledge in daily life are essential toincrease oral health knowledge and attitudes among

school teachers. Conducting training program for Anganwadi workers, ASHAs, nursing staff, andteachers is also a proposal by National Oral Health Program launched by Indian government. With this background of teachers, training program on oral health can be conducted efficiently and made much more effective.

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