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Research article

A study to assess the effectiveness of planned teaching programme on knowledge regarding prevention of oral cancer among selected secondary school of Thane District

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Abstract

Oral cancer is a heterogeneous group of cancer arising from different parts of the oral cavity, with different pre-disposing factors, prevalence, and treatment outcomes. **Aim**: To assess & compare the knowledge before & after planned teaching programme regarding prevention of oral cancer among secondary students. To identify association between demographic variable of pre & post test knowledge scores regarding prevention of oral cancer among secondary students. **Method**: The present study non-experimental descriptive design and conducted on students from the selected secondary school students of Thane District. **Result**: In experimental group of 100, majority of 100% of students were in the age group 13-15 years, 39% of student's mother's education were up to graduate and PG, 32% of student's Father's education were up to graduate and PG, 30% student's family income ranges between 16020 – 32049, 23% of students father's occupation is skilled worker, 39% student's mother occupation is clerical, 53% students are residing in building, 84% of students were having personal habits, 88% of students never attended any health programme on prevention of oral cancer, 52% of students were getting information regarding prevention of oral cancer through mass media. **Conclusion:** The mean knowledge score of the students increased to 17.28 i.e. average score of knowledge increase to 72%. Also the calculated "t" value is 13.63, which is significantly higher than the table value at 0.05 levels of significance. This finding indicates the planned education was effective in increasing the knowledge of the samples regarding primary prevention of oral cancer.

Keywords: Oral Cancer, Demographic variable, Non-experimental descriptive design, Primary prevention.

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1. Introduction

Oral health is an important aspect of the overall health of an individual disease such as dental caries & oral cancers are major public health issues in India [1]. Oral cancers are major problems in this country [2]. Despite this, oral health has not been given sufficient importance in our country. Preventive dental care almost nonexistent in the rural area & very limited in urban areas [3].

Although orodental problems may not be life threatening, their treatment is often expensive. They can be prevented and controlled to a large extent by health education & motivation. It is therefore essential that to combat oral diseases a preventive approach with the focus on health education & promotion, be given prime importance [4].

The problem of the oral health will be dealt with under the National Cancer Control Programme at national level. Apart from this initiative there is the National Rural Health Mission's School Health Programme, which include an Oral health awareness programme for children and also an Oral or dental screening programme for early detection & prevention of orodental problems.

Primary prevention is the most cost effective prevention programme as it aims to reduce the incidence of cancer by risk factor modification. About

50% of all cancers in males are tobacco related & a large portion of them can be prevented by anti-tobacco programs [5]. This has to be publicized more widely. Teen age students need to be targeted as most of them pick up habits at this time. The school curricula should involve messages for a healthy life style and warn about harmful effects of tobacco & alcohol, legislation has to be enforced for prohibiting tobacco advertisement and sale of tobacco to youngsters. A proportion of cancers are considered to be related to the dietary practices and the importance of a healthy diet rich in green and yellow vegetables and fruits has to be highlightented. The risk factors, Alcohol, Tobacco, Bad diet and physical in activity are risk factors for most of the Non-Communicable Diseases and have to be approached together as lifestyle modification [6].

Oral cancer is a major health problem in certain parts of the world. Globally, there are around 2, 70,000 new cases annually and 1, 45,000 deaths, of which two third occurs in developing countries. In the western world in general, oral cancer accounts for 2-6 percent of all malignancies [7]. Head & Neck cancer accounts for 5% of all malignancies & rank as the fourth most common cancer in male, in USA, though in India it is far more common, with oral & pharyngeal cancer being more common. In the western countries laryngeal cancers are the commonest head and neck cancer while in China, it is nasopharyngeal carcinoma. Common site of malignancy in the west is floor of mouth and Czechoslovakia it is lips. An increase in age adjusted incidence rate has been reported in central & Eastern Europe, especially among younger men. Incidence progressively increases with age and has relatively higher mortality rate in older age group [8].

Some cancers are more common in low socioeconomic group. Oral cancer is more prevalent among low socioeconomic status group. Low socioeconomic and less educated is less likely to be screened and more likely to be diagnosed with late stages of oral cancer [9].

Study has been conducted to assess predictors of smoking initiation among school students. Students who were more likely to initiate smoking did not like school as much and believed that experimentation with smoking was safe [10].

Statement of the problem:

"A study to assess the effectiveness of planned teaching programme on knowledge regarding prevention of oral cancer among selected secondary school of Thane District".

Aim and Objectives:

To assess & compare the knowledge before & after planned teaching programmer regarding prevention of oral cancer among secondary students.

To identify association between demographic variable of pre & post test knowledge scores regarding prevention of oral cancer among secondary students.

Hypothesis:

H_{01}: There will be no significant difference between pre-test and post-test knowledge score.
H_1: There will be significant difference between pre-test and post-test knowledge score.
H_{02}: There is no significant association between pre-test knowledge score with selected socio demographic variables
H_2: There is a significant association between pre-test knowledge score with selected socio demographic variables.

Variables:

Independent variable: The independent variable in this study is planned education regarding primary prevention of oral cancer.

Dependent variable: The dependent variables in this study are knowledge of student regarding primary prevention of oral cancer.

2. Methods:

The sample of the study for phase I & II consisted of 100 students from the selected secondary school students of Thane district.

Inclusion criteria:

>Subjects who will be able to communicate English.
>Subjects who are studying in 8^{th} and 9^{th} standard of - selected secondary school students of Thane district.
>Subjects who are in between the age group 13 to 15 years.
>Subjects available at the time of data collection.

Exclusion criteria:

>Subjects who are studying in 8^{th} and 9^{th} standard.
>Subjects who were absent on the day of pre-test.
>Subjects who were attended health programmers related to oral cancer.

Structured questionnaire:

A knowledge questionnaire was developed for assessing the gain in knowledge. These tools were developed in order to attain the objectives of the study [11]. The researcher adopted following steps in the development of the instruments:

1. Review of Research and Non-research literature related to oral cancer & its prevention.

2. Opinion and suggestions were taken from experts.
3. Development of Blue print of the questionnaire
4. Construction of demographic Performa and questionnaire on prevention of oral cancer.
5. Development of planned education on prevention of oral cancer.
6. Content validity
7. Pre testing the instruments
8. Reliability

Section I:

This section included items seeking information on socio demographic variables like age, parent's education, family income, residence, personal habits, and attendance of health education and source of information regarding prevention of oral cancer.

Section II:

This section consisted of 24 items categorized under following broad areas like Disease, Risk factor, Signs & symptoms, Diagnostic test, Treatment modalities, and Prevention.

Feasibility of the study

After obtaining administrative permission, the tool was administered to 8^{th} & 9^{th} students studying in selected secondary school of Thane district on 07/09/2015. The trial of the tool was carried out to do the reliability of item analysis. The tool was found reliable by split half method which was conducted on 10 students from the same school on 12/09/2015. The time taken to fill the questionnaire was around 20-30 minutes.

Pilot study

A pilot study was conducted from 07/09/2015 to12/09/2015 to assess the feasibility of the study and to pre test the planned education and to decide on a plan for a statistical analysis [12]. The subjects of pilot study were excluded from the final study. 10 secondary school students were selected using cluster sampling technique from selected secondary school of Thane district.

Reliability of the instruments:

The reliability co-efficient for the knowledge test was calculated using test & retest method. The test was administered to 10 subjects. Coefficient of reliability "r" for the whole test was calculated. The reliability was calculated using the deviation method & it was found to be highly significant i.e. = 0.92, so the knowledge questionnaire was found reliable. The final tool consisted of 31 questionnaires.

Validity of the instruments/tool:

Validity refers to the degree to which the items in an instrument adequately represent the universal content. To ensure content validity, the tools / questionnaire, and planned teaching programme was submitted to 15 experts along with blue print and objective of the study to establish the content validity of the tool .After submitting these were received from 15/08/2015 to 30/08/2015. The 10 experts were from the field of nursing among them 5 are from Pediatric specialty, 2 from Medical Surgical nursing specialty [CVTS & Oncology], 1 from CHN specialty, 1 from Psychiatric specialty,1 from OBG specialty. The 5 experts were from other fields like, 1 is from BDS [Dentist], 1 is Pediatrician [MD], 1 is General surgeon [MS], 1 is from MD [Medicine], and 1 is Statistician.

Plan of data analysis:

Analysis is the systematic organization and synthesis of research data and the testing of the research hypothesis by utilizing the obtained data. The data analysis was planned to include descriptive and inferential statistics. The following plan of analysis was developed with the opinion of experts .The analysis will be done based on the objectives and hypothesis to be tested. This will be done in two phases:

Phase I: The data related to existing level of knowledge would be analyzed in terms of descriptive statistics.

Phase II: The study data from Pretest and Posttest scores would be analyzed by applying "t" test to test significance of the difference between pre test and post test mean scores. Area wise significance of pre test and post test scores will be analyzed by using "t" test. Chi square test or Fischer's test for association would be used to find out the significant difference between pre test knowledge and demographic variables. Owing to the design of the study and limitation in establishing control, the conventional level of significance was set at 0.05.

3. Result:

Section I:
Deals with the distribution of students of selected secondary school according to their socio-demographic characteristics

Section II:
Deals with the significant difference of knowledge regarding prevention of oral cancer among students of selected secondary school students before and after planned education programme

Section III:

Deals with the section III-A & III-B shows association of knowledge score of group in relation to demographic variables like age, parents' education, family income, residence, personal habit, attendance of health education programme on prevention of oral cancer, source of information about oral cancer respectively.

Table 1 Distribution of samples in relation to demographic data by frequency and percentage

n=100

Demographic variables	Category	Frequency	%
Age group	10-12 years	0	0
	13-15 years	100	100
	16 years & above	0	0
Mothers education	Profession	12	12
	Graduate/ PG	39	39
	Intermediate/post high school diploma	17	17
	Hsc	19	19
	Middle school certificate	7	7
	Primary school certificate	6	6
	Illiterate	0	0
Fathers education			
	Profession/ illiterate	19	19
	Graduate/ PG	32	32
	Intermediate/post high school diploma	22	22
	Hsc	21	21
	Middle school certificate	6	6
	Primary school certificate	0	0
	Illiterate	0	0
Family income	Less than 1600	14	14
	1601 -4809	9	9
	4810-8009	5	5
	8010 – 12019	7	7
	12020 – 16019	18	18
	16020 – 32049	30	30
	Above 32050	17	17
Father's occupation	Profession	18	18
	Semi profession	13	13
	Clerical, shop-owner, farmer	23	23
	Skilled worker	23	23
	Semi skilled worker	13	13
	Unskilled worker	9	9
	Unemployed	1	1
Mother's occupation	Profession	13	13
	Semi profession	9	9
	Clerical, shop-owner, farmer	39	39
	Skilled worker	15	15
	Semi skilled worker	13	13
	Unskilled worker	8	8
	Unemployed	3	3
Area of residence	Slum	14	14
	Chawl	26	26
	Building	53	53
	Banglow	7	7
Personal habbit	Smoking	26	26
	Chewing tobacco	17	17
	Chewing gutakha	23	23
	Eating pan	6	6
	Using misheri	12	12
	No bad habbit	16	16
Attendance of health education programme	Yes	12	12
	No	88	88

The data presented in above Table 1 shows that out of 100 students, majority of 100% were in age group 13-15 years. 39% of student's mother's education were up to graduate, 32% of student's father's education were up to graduate, 30% student's family income ranges between 16020-32049, 23% of student's father's occupation is clerical & skilled worker, 39% of student's mother's occupation is clerical, 53% student's reside in building 26% students were having personal habit of smoking, 88% student's were never attended any health programme on prevention of oral cancer, 68% student's were getting information regarding prevention of oral cancer through mass media.

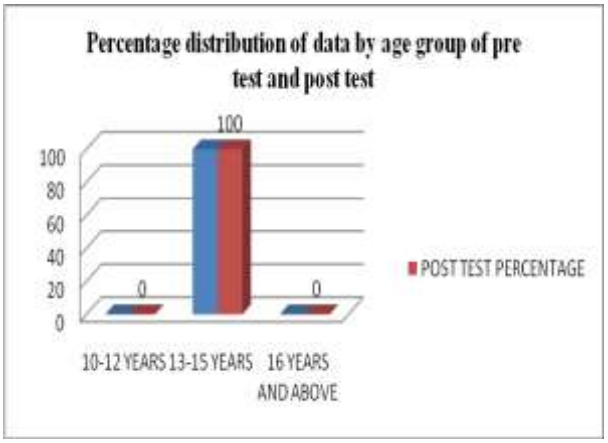


Fig 1 Percentage distribution of data by age group of pre test and post test

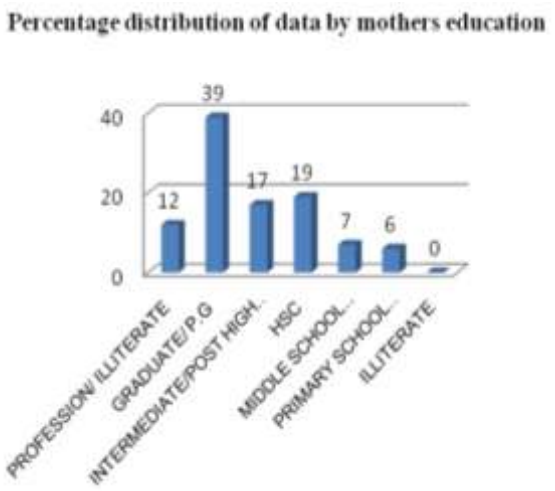


Fig 2 Percentage distribution of data by mother's education

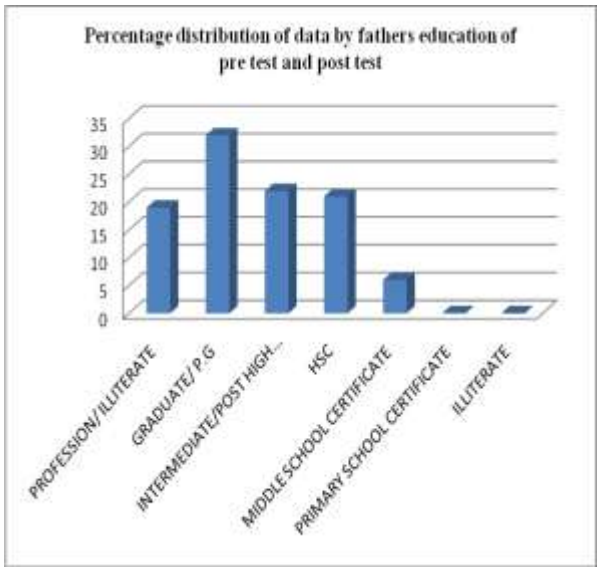


Fig 3 Percentage distribution of data by father's education of pre test and post test

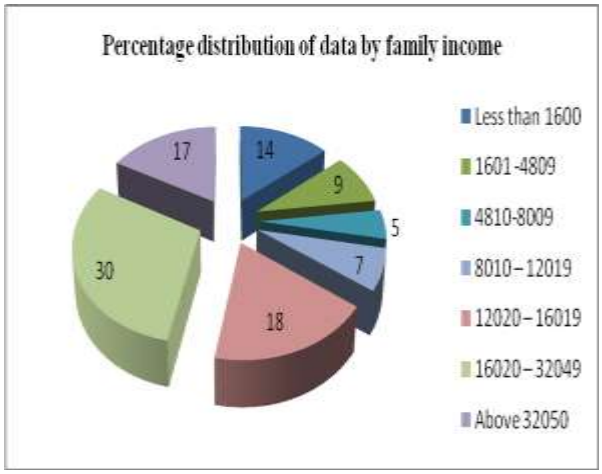


Fig 4 Percentage distribution of data by family income

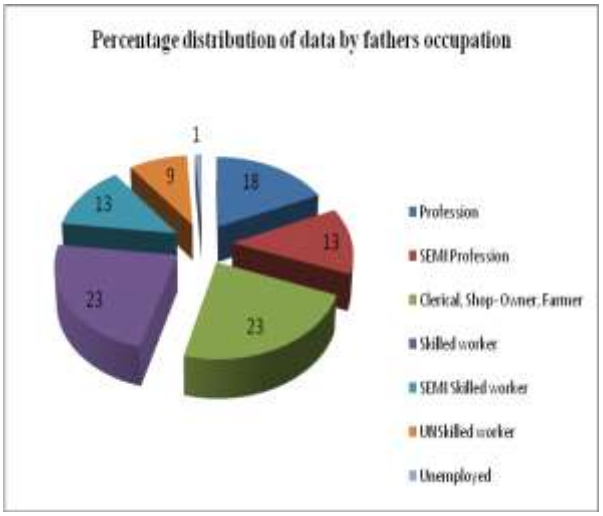


Fig 5 Percentage distribution of data by father's occupation

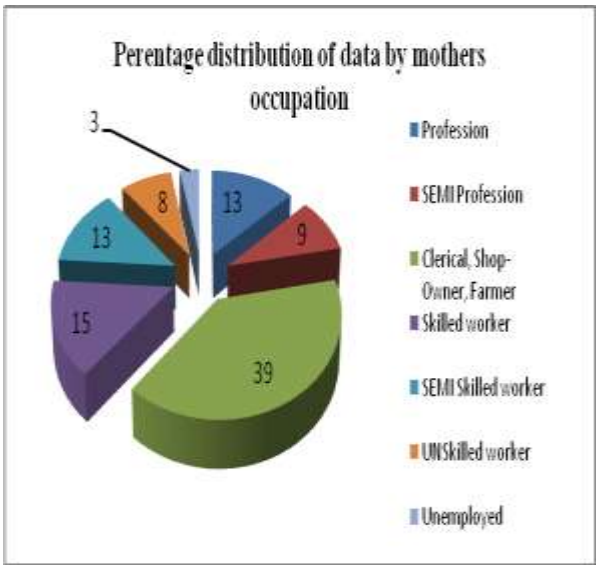


Fig 6 Percentage distribution of data by mother's occupation

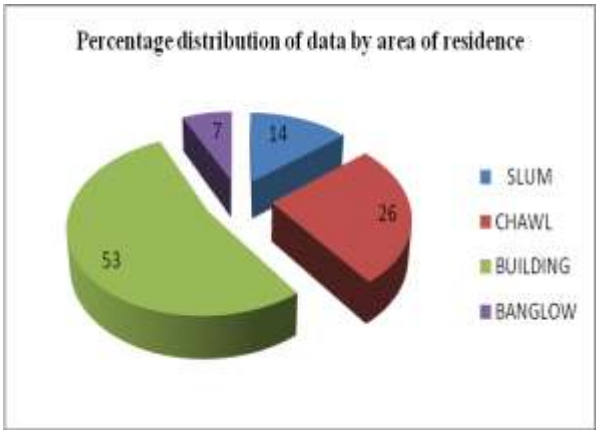


Fig 7 Percentage distribution of data by area of residence

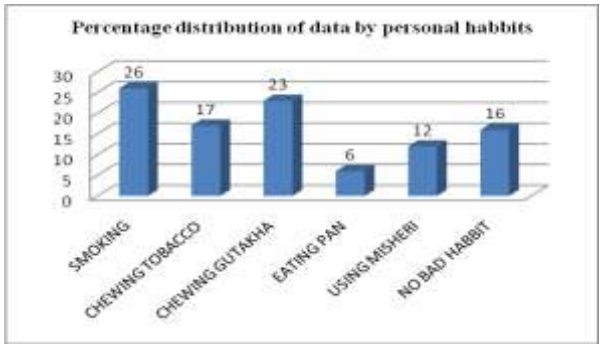


Fig 8 Percentage distribution of data by personal habits

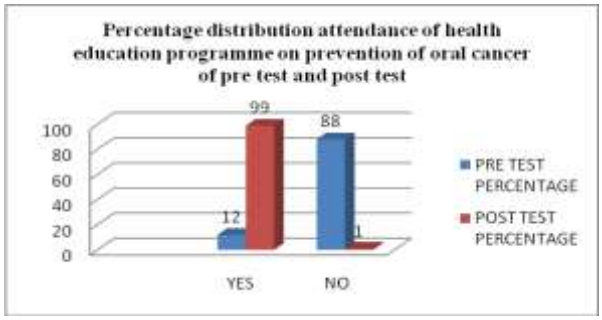


Fig 9 Percentage distribution attendance of health education programme on prevention of oral cancer of pre test and post test

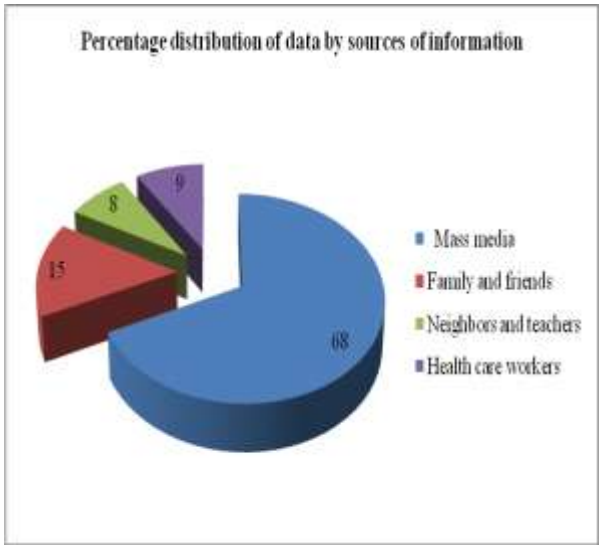


Fig 10 Percentage distribution of data by sources of information

Table 2 Prevention and Management of Pre and post test

Sub titles	Q.no	N	Mean		S.d		Df	T value	P value
			Pre	Post	Pre	Post			
Clinical picture	Q12.1	100	2.66	4	0.99717	0.011	99	13.438	0.001
		100							
	Q13.1	100	2.42	1	1.06534	0.01	99	13.329	0.001
		100							
	Q14.1	100	2.47	2	0.99955	0.011	99	4.702	0.021
		100							
	Q15.1	100	2.62	4	0.92965	0.011	99	14.844	0
		100							
	Q16.1	100	2.39	2	1.06263	0.021	99	3.67	0.002
		100							
	Q17.1	100	2.34	2	1.13012	0.011	99	3.009	0.002
		100							
	Q18.1	100	2.27	3.07	1.09963	0.25643	99	7.036	0.001
		100							
	Q19.1	100	2.55	4	0.96792	0.011	99	14.981	0
		100							
Prevention & management	Q20.1	100	2.03	3	1.05844	0.01	99	9.164	0.001
		100							
	Q21.1	100	2.2	2	1.08246	0.011	99	2.848	0.02
		100							
	Q22.1	100	2.39	2	1.1	0.01	99	3.545	0.001
		100							
	Q23.1	100	2.38	2.03	1.1615	0.3	99	3.093	0.001
		100							
	Q24.1	100	2.15	2.94	1.01876	0.34289	99	7.543	0.002
		100							
	Q.no	N	Mean	S.d	Df	T value	P value	Q.no	N

			Pre	Post	Pre	Post			
	Q25.1	100 100	2.16	2.96	1.10755	0.28141	99	6.826	0.002
	Q26.1	100 100	2.76	2.01	1.24007	0.1	99	6.038	0
	Q27.1	100 100	2.61	3.93	1.02391	0.40837	99	12.002	0.001
	Q28.1	100 100	2.43	2	0.91293	0.011	99	4.71	0.003
	Q29.1	100 100	2.52	2	1.13244	0.012	99	4.592	0.003
	Q30.1	100 100	2.74	1	1.26027	0.01	99	13.807	0.001
	Q31.1	100 100	2.2	3.99	0.99494	0.1	99	17.758	0

Table 3 Distribution of overall knowledge score in frequency and percentage obtained by the study group

Grade	Pre test		Post test	
	Score	%	Score	%
Poor (0-5)	21	21	0	0
Average (6-10)	47	47	1	1
Good (11-15)	29	29	13	13
V. Good (16-20)	3	3	86	86
Grand total	100	100	100	100

The above Table 3 shows that majority (100%) of the secondary school students in pre-test were having average knowledge score (6-10), where as in post-test knowledge of secondary school students majority (86%) of the secondary school students were having very good knowledge score. The knowledge scores of the secondary school students showed a marked increase as seen in the post test score of the study group, which indicates that the planned health teaching programme was effective in increasing the knowledge of the subjects regarding prevention of oral cancer.

n=100

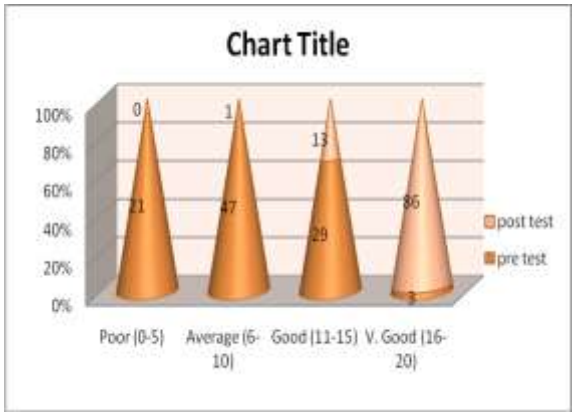
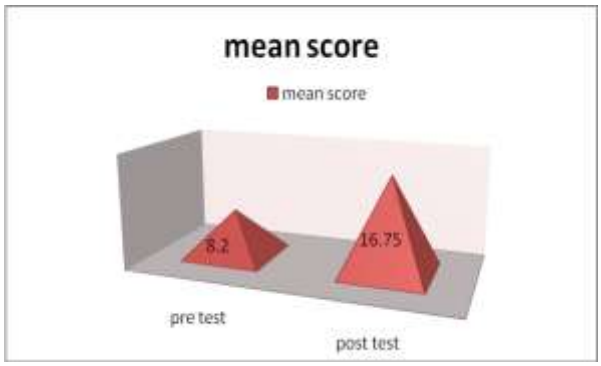


Fig 11 Bar Graph Showing Comparison of Pre Test & Post Test Knowledge Grades In Percentage



n=100

Fig 12 Bar diagram showing the effectiveness of planned teaching for knowledge of secondary school students regarding prevention of oral cancer.

Table 4 Association between demographic variables with knowledge score of secondary school students

Demographic variables	Degree of freedom	Calculated value	Table value	Level of significance	
Family Income	3	14.79	7.815	p<0.001	S
Area Of Residence	3	2.24	7.815	P<0.001	NS

S = Significant, NS = Not Significant

Analysis reveals that there is very high association of knowledge score with Family Income & Area of Residence.

4. Discussion

Association between demographic variables and knowledge regarding primary prevention of oral cancer. In the present study the 'p' value calculated to find out the association between the selected demographic variables and increasing knowledge. In the group 'p' value for demographic variable like age,

sex regarding prevention of oral cancer with increase in knowledge level was greater than tabulated value (> 0.05). This suggests that there was no significant association of increase in knowledge with demographic variable like age, sex regarding prevention of oral cancer. So the Hypothesis (H_1) is rejected. In the group calculated 'p' value for demographic variable like age, sex with knowledge level was lesser than tabulated value (> 0.05) this suggest that there was significant association of knowledge with demographic variable. So the Hypothesis (H_1) is accepted.

Conclusion

Demographic variable

Finding of the present study show that in both the groups majority of the students in experimental and control group 84% and 90% respectively were from age group 13-15 years. Majority of the students parents education 38% to 42% in higher secondary. Family income of students 72% maximally in range of 10001 to15000 rupees. Majority of the students 82 % resides in building area. 76% was not having any personal habit [smoking, chewing tobacco etc]. Maximally 98% never attended any health education programme on prevention of oral cancer. Majority of the students 82% had mass media as source of information regarding cancer.

Knowledge variable

Study revealed that in the pre test 56% students had average [below 50%] knowledge and 38% had good [51-75%] knowledge about primary prevention of oral cancer. The mean knowledge score was 11.30 i.e. average score of knowledge was 47.08% which shows that students had average knowledge regarding primary prevention of oral cancer. In the post test46% had excellent [75-100%] knowledge and 42 % had good [51-75%] knowledge about primary prevention of oral cancer. The mean knowledge score of the students increased to 17.28 i.e. average score of knowledge increase to 72%. Also the calculated "t" value is 13.63, which is significantly higher than the table value at 0.05 level of significance .This findings indicate the planned education was effective in increasing the knowledge of the samples regarding primary prevention of oral cancer.

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