FINAL REPORT

1.	**TITLE OF THE PROJECT**	"A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE REGARDING ENVIRONMENTAL POLLUTION AND ITS CONTROL AMONG THE HIGH SCHOOL STUDENTS FROM SELECTED SCHOOL OF HONAVAR."
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11.	**DATE OF COMMENCEMENT OF RESEARCH ACTIVITY**	28/10/2019
12.	**DATE OF COMPLETION**	25/1/2020
13.	**OBJECTIVE STATEDAND OBJECTIVE ACHIEVED**	**Objectives stated:** • To assess the knowledge regarding environmental pollution and control among the school student in Mazarello school • To evaluate the effectiveness of planned teaching programme the on the knowledge regarding environmental pollution and control among the school student in Mazarello school • To find out the association between post test knowledge score and selected demographic variables among the high school students **Objectives achieved:** • Assessed the knowledge regarding environmental pollution and its control among the school student in Mazarello School by pre test structured knowledge questionnaire. • Evaluated the effectiveness of planned teaching programme the on the knowledge regarding environmental

		pollution and control among the school student by comparing the pre test and post test knowledge questionnaire. • Found there is an association between post test knowledge score and selected demographic variables like gender, religion and personal habit of waste disposal and method of among the high school students by chi square test.

9. FIELD/EXPERIMENTAL WORK

METHODOLODY

The methodology adopted for the study include research approach, research design, setting of the study, population, sampling technique, development and description of the instruments for data collection, development of demonstration based teaching programme, procedure for data collection and plan for data analysis.

- **Research approach**

An evaluative approach was used for the study. Evaluative research is an applied form of research that involves finding out how well the programme, practice, or a policy is working. The main goal is to evaluate the success of the programme.

- **Research design**

The research design adopted for the present study was pre- experimental design with one group pre-test post-test design. This design was adopted to assess the knowledge regarding the environmental pollution and its control among the high school students.

- **Variables**

A variable is a phenomenon or characteristic or attribute that changes. Variables are measurable characteristics of concept and consist of logical group of attributes.

- **Independent variable**

In this study planned teaching programme is the independent variable.

- **Dependent variable**

In this study, the dependent variable is the knowledge of the high school students on environmental pollution and its control.

- **Demographical variables**

The demographic variables in this study are age in year, sex, religion, educational status, source of knowledge and personal habit of waste disposal.

- **Research setting**

It is the physical location and condition, in which data collection takes place in a study .The study, was conducted at Mazarello high school Kasarkod Honavar.

- **Population**

  The population for the study consists of high school students of selected schools of Honavar

- **Sample**

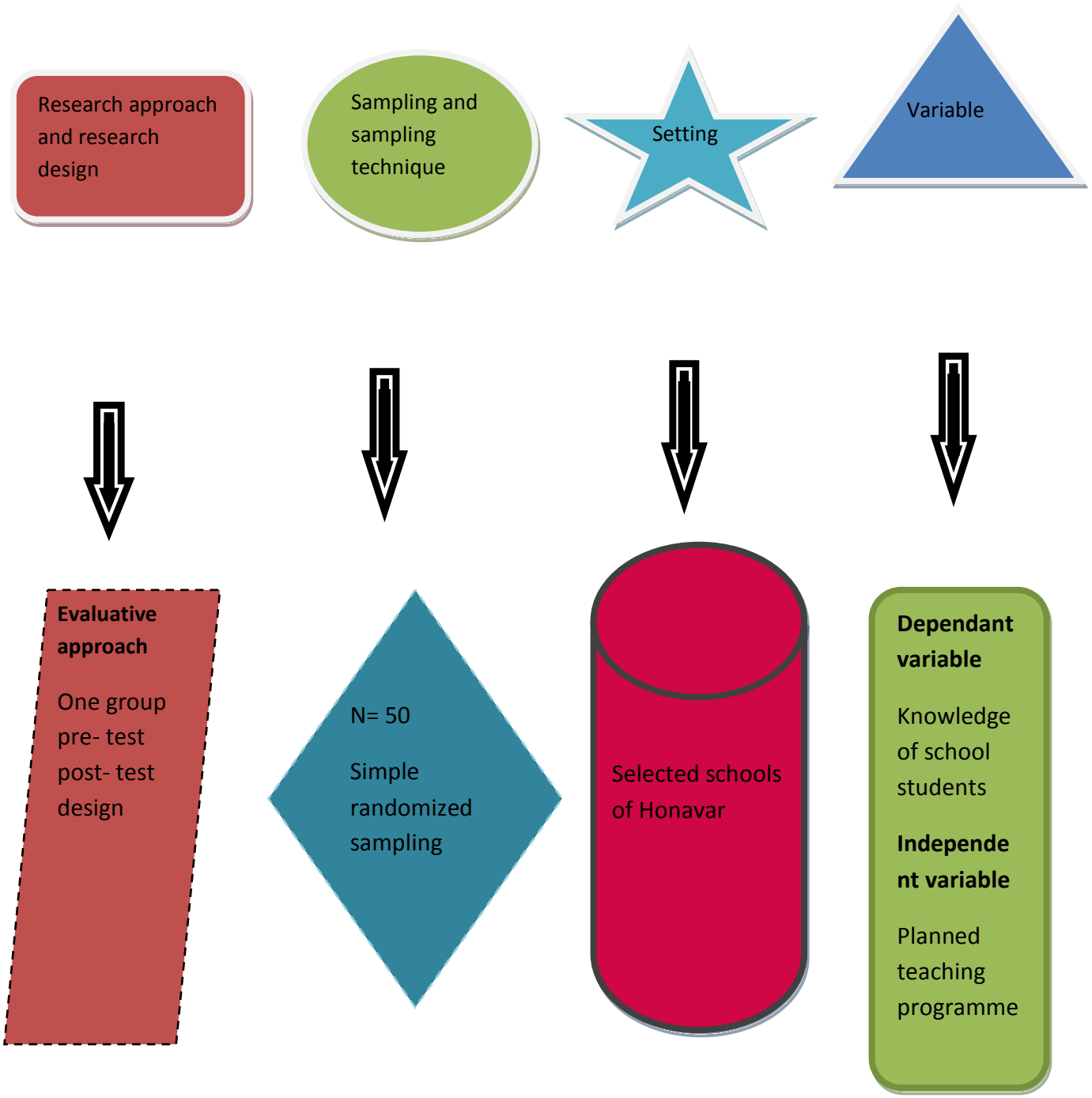
A sample is a subset of the population selected to participate in research study.

The sample for the current study consists of 50 high school students of selected schools of Honavar.

- **Sampling technique**

Sampling is the process of selecting subjects who are representative of the population being studied.

The sampling technique used for the study is non-probability purposive sampling technique. Out of the total population defined, 50 subjects who met the inclusion criteria were selected for the study.


Research approach and research design
Sampling and sampling technique
Setting
Variable
Evaluative approach
One group pre- test post- test design
N= 50
Simple randomized sampling
Selected schools of Honavar
Dependant variable
Knowledge of school students
Independent variable
Planned teaching programme

- **Sampling criteria**

The samples were selected with the following pre-determined set of criteria.

Inclusion criteria:

- Samples those are present during the time of data collection.
- Samples who can understand English.
- Samples who willing to participate during data collection.

Exclusion criteria:

- Sampling who are absent during the time of data collection.
- Samples those are not willing to participate.

- **Data collection instrument**

Demographic Performa and structured knowledge questionnaire was used to collect data from the high school of Honavar who met the inclusion criteria .intervention was given in the form of planning teaching program on environmental pollution and its control.

- **Development of the tool:-**

Data collection tool are the procedures or instruments used by the researcher to observe or measure the key variables in the research problem.

The present study aimed to evaluate the effectiveness of planned teaching programme on environmental pollution and its control among high school students .so the structured knowledge questionnaire was developed as tool to collect data.

- **Development of planned teaching program**

. The steps to prepare the teaching plan were:

- **Framing the outline of the teaching plan:** This include setting of the general and specific objectives, specifying the place, learners and duration of the session.
- **Framing the outline of the content:** The content of teaching plan includes topics introduction, types, effects, prevention
- **Deciding methods of instruction and audio visual aids:** The method of instruction was lecture cum discussion.LCD projector was use as an audio visual aid
- **Evaluation of the teaching plan:** Evaluation of the teaching plan was done by content validity. There was 100% agreement by 7 experts for structured teaching programme.

TESTING OF THE INSTRUMENTS

- **Content validity of the tool**

The structured knowledge questionnaire along with lesson plan, problem statement, and objectives of the study, hypothesis, operational definition, inclusion and exclusion criteria and structured knowledge questionnaire were submitted to experts to ensure content validity. The 7 experts were from the various fields and all were doctors.

- **Demographic Proforma:**

There were 6 items in demographic Performa. There was 100% agreement for all items.

- **Structured knowledge questionnaire:**

Out of 45 items there was 100% agreement for 41 questions, .modification made on 3 questions as per the suggestion of experts and one question was rejected. Validated tool was applied for the reliability. As this was found relevant and meaningful the necessary modification were made and the total number of items were 44 questions.

- **Planned teaching programme**

There was 100% agreement for the content of planned teaching programme. Suggestions were taken in to consideration and recommended modifications were made for easy understanding of high school students.

- **Description of the final tool**

Structured knowledge questionnaire was use to access the knowledge of post natal mother regarding post natal exercises. The final tool consists of two parts.

Tool 1: demographic Performa:

Demographic Performa include 6 items such as age in years, genders, religion, educational status, source of knowledge and personal habit of waste disposal.

Tool 2: structured knowledge questionnaire

In order to measure the knowledge level, structured knowledge questionnaire was used. This consists of 44 questions related to environmental pollution as its control and was divided into 4 sections.

Each multiple choice questions had four options with one correct response. Each items had a score of '1' for correct answer and '0' for the wrong answer. The maximum possible score was '24' and the minimum score was '0'. The score was categorized on arbitrarily as follows;

LEVEL OF KNOWLEDGE	SCORES
Inadequate	**<50%**
Moderate	**51-75%**
Adequate	**>75%**

Reliability of the tool

Reliability of the instrument is concerned with how consistently the measurement technique measures the concept of interest.

To ensure the reliability, after obtaining permission from selected schools of Honavar the tool was administered by structured knowledge questionnaire method to 5 high school students who fulfilled the sampling criteria. Respondents did not find difficulty in answering the questions. Split half technique was used to assess the internal consistency. The reliability was tested using Karl-Pearson's coefficient of correlation followed by Spearman-Brown prophecy formula. The reliability quotient was found to be r=0.72. This indicated that the tool was reliable.

- **Pilot study:-**

A small scale version or trial run done in preparation for a major study is referred to as the pilot study.

After obtaining the written permission from the janatha vidhyalaya of Kasarkod Honavar, The pilot study was conducted on 5 high school students. Samples were selected based on predetermined criteria set by the investigator through simple randamiosed sampling technique. After taking written consent, objectives of the study was explained to each subject and confidentiality was assured. Structured knowledge questionnaire was used to assess the pre test knowledge level. Intervention was given in the form of planned teaching programme on the same day. The time taken to teach was 45 minutes. On the fifth day post test was conducted by using the same knowledge questionnaire.

The collected data were analyzed by using descriptive and inferential statistics. The significant difference between, the pre test and post test was found using paired t' test. The difference obtained was found to be significant t=2.132. After conducting the pilot study, it was found that the tool was faceable, authentic and samples were cooperative. The questionnaire, teaching plan was relevant, the time and cost of the study were within the limit and investigator decided to proceed with the study as planned.

Method of data collection:

Data collection refers to the steps of gathering information needed to address a research problem. The final data collection was done from 5/12/19 to 10/12/19 from selected schools of Honavar.

The data were collected from 50 high school students who meet the study criteria. Subjects were asked to participate in the study after self introduction by the investigator. The high school students were informed about the purpose of the study and the consent was taken from them. Pre-test was administered followed by planned teaching programme on the same day. The teaching was carried out in high school hall and the duration of the teaching was 45 minutes. The method of instruction adopted was lecturing cum discussion. After the teaching session, high school students were free to clarify their doubts. Post-test was conducted using the same structured knowledge questionnaire on the fifth day of teaching.

- **Plan of data analysis:**

It is done by using both descriptive and inferential statistics.

Demographic data would be analyzed using frequency and percentage distribution.

- The knowledge score of high school students would be analyzed by computing range, mean, median, mean percentage and standard deviation.
- Effectiveness of planned teaching programme would be analyzed by using paired' test.
- Association between the post-test knowledge scores and selected demographic variables will be calculated by using chi-square test. For the interpretation of hypotheses and findings, the level of significance would be set at 0.05.

10. DETAILED ANALYSIS OF RESULTS.

RESULTS

The analysis and interpretation of data of this study are based on data collected through multiple choice questionnaires on environmental pollution and its control among high school students of selected school of Honavar. The results were computed using descriptive and inferential statistics based on the objectives of the study.

Hypothesis

All the hypothesis were tested at 0.05 level of significance

H1: Therewill be a significant difference betweenthe pre test and post test knowledge score on environmental pollution and its control among the high school students.

H2: There will be a significant association between the post test knowledge with the related demographic variables among the high school students.

Organization of the study findings:

In order to find out the effectiveness of structured teaching programme, data were tabulated, analyzed, and interpreted using descriptive and inferential statistical methods. The data were presented under the following headings:

Section 1: Demographic data of samples.

Section 2: Distribution of subjects according to their knowledge score

Section 3: Find the effectiveness of pretest and post test knowledge score

Section 4: Association between the mean post test score of knowledge and selected demographic variables

Section 1: Demographic data of high school students

This section deals with the characteristics of the 50 samples in terms of frequency and percentage.

Table 1: Frequency and percentage distribution of samples on the basis of their demographic data n=50

Sl no	Variables	Frequency(f)	Percentage (%)
1	Age in years		
	• 13-14	47	94%
	• 15-16	3	6%
2	Gender		
	• Male	25	50%
	• Female	25	50%
3	Religion		
	• Hindu	12	24%
	• Christian	31	62%
	• Muslim	7	14%
4	Educational status		
	• 9^{th} standard	42	84%
	• 8^{th} standard	8	16%
5	Source of knowledge		
	• Article	0	0%
	• Text book	4	8%
	• Internet	7	14%
	• Peer group and family members	39	78%
6	Personal habit of waste disposal		
	• Burning	17	34%
	• Composting	24	48%
	• dumping	9	18%

Data presented in table 1 depicts the distribution of their age, gender, religion residency, family income, educational qualification of parents.

The data presented in table 1 reveals the following findings

- **AGE :**

  Among the high school students for the study of the 94% subjects are belongs to the age group between 13-14 years and 6% belong to the age group of 15-16 years respectively

- **Gender**

Among the high school students 50% of the subjects are male and 50%are females

- **Religion**

Among the subjects 24% are Hindus, 62% are Christians< and 16% are Muslim

- **Educational status**

Among the subjects 84% belongs to 9^{th} standard and 16%belongs to 8^{th} standard.

- **Source of knowledge**

Among the subjects 0% isgetting knowledge from article, 8% are using text book as source of knowledgeand 78% are getting knowledge from peer and family members.

- **Personal habit of waste disposal**

Among the subjects 34% are burning the waste, 48% subjects are composting the waste and 18% are dumping the wast

The data are also shown in figures 4 to 13

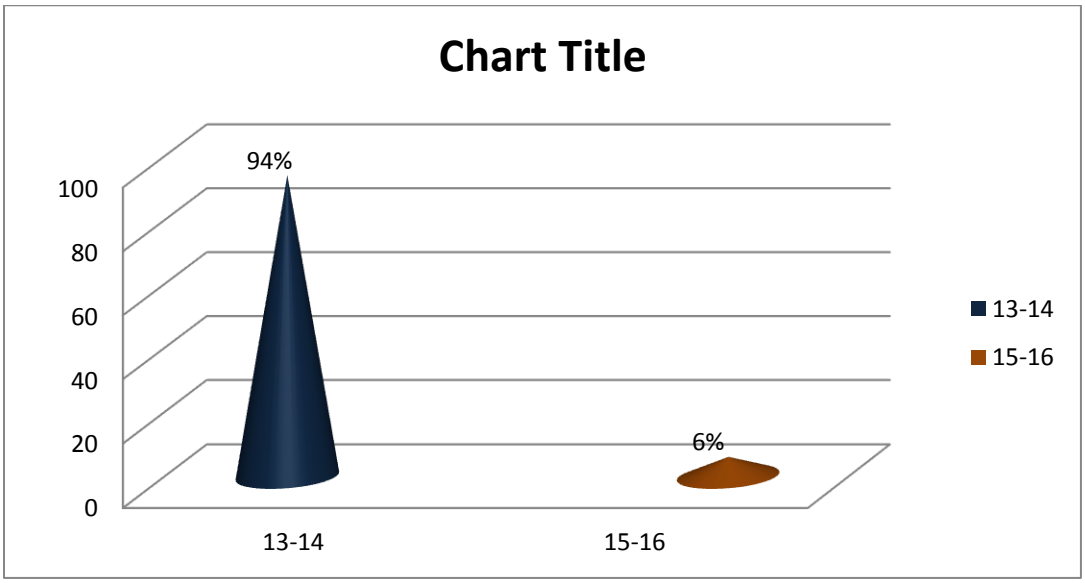


Fig 1: bar diagram shows that distribution of high school students according to age

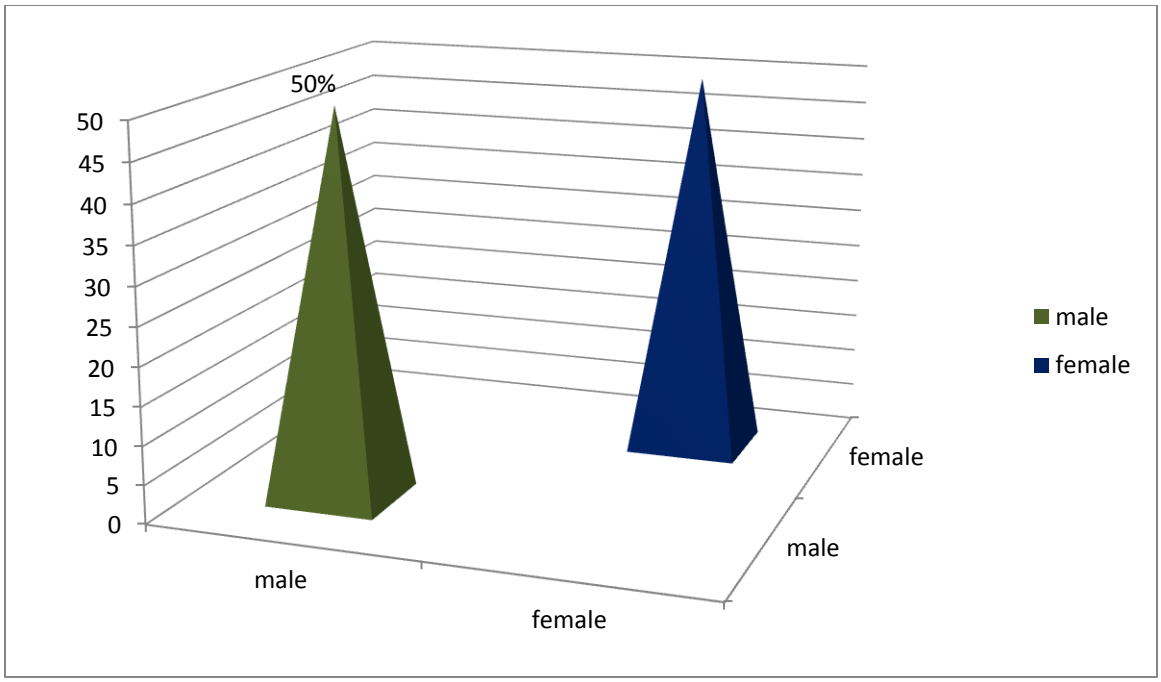


Fig 2: bar diagram shows distribution of high school students according to gender.

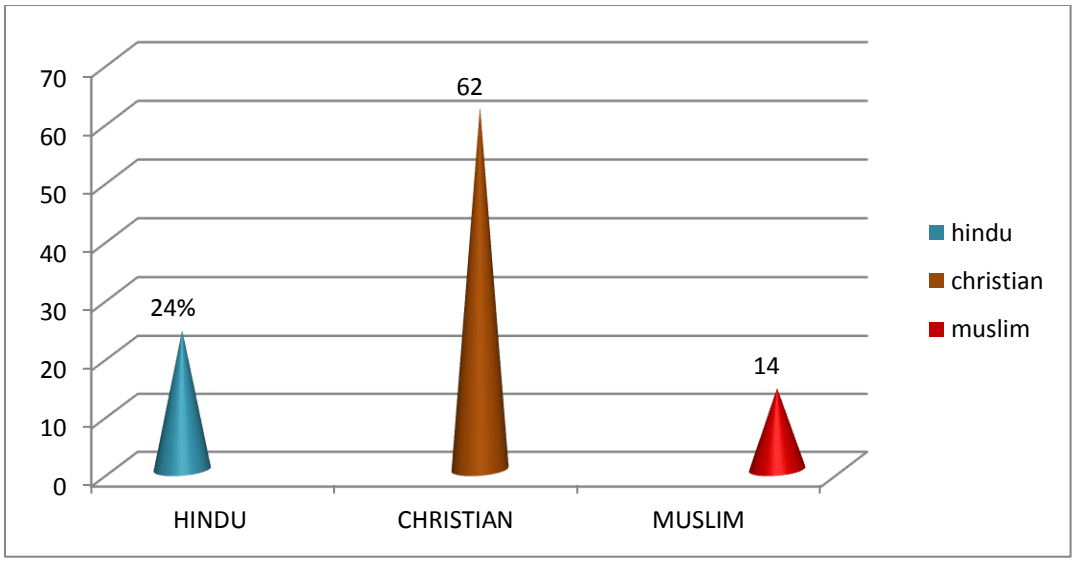


Fig 3: bar diagram shows distribution of high school students according to religion

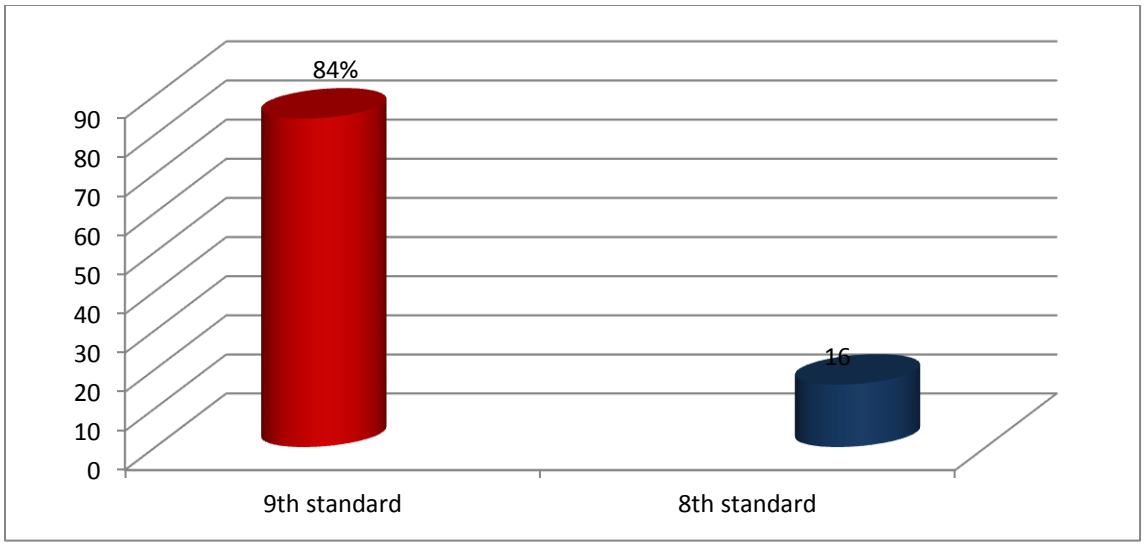


Fig 4: bar diagram shows distribution of high school students according to educational status

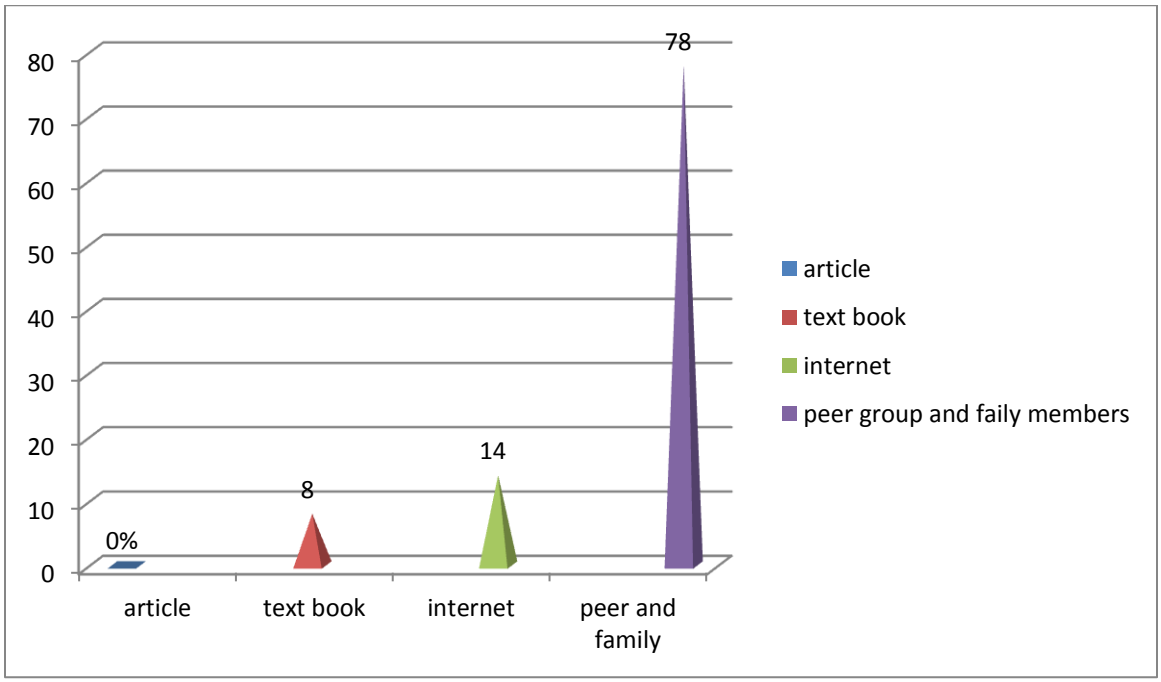


Fig 5: bar diagram shows distribution of high school students according to their source of knowledge.

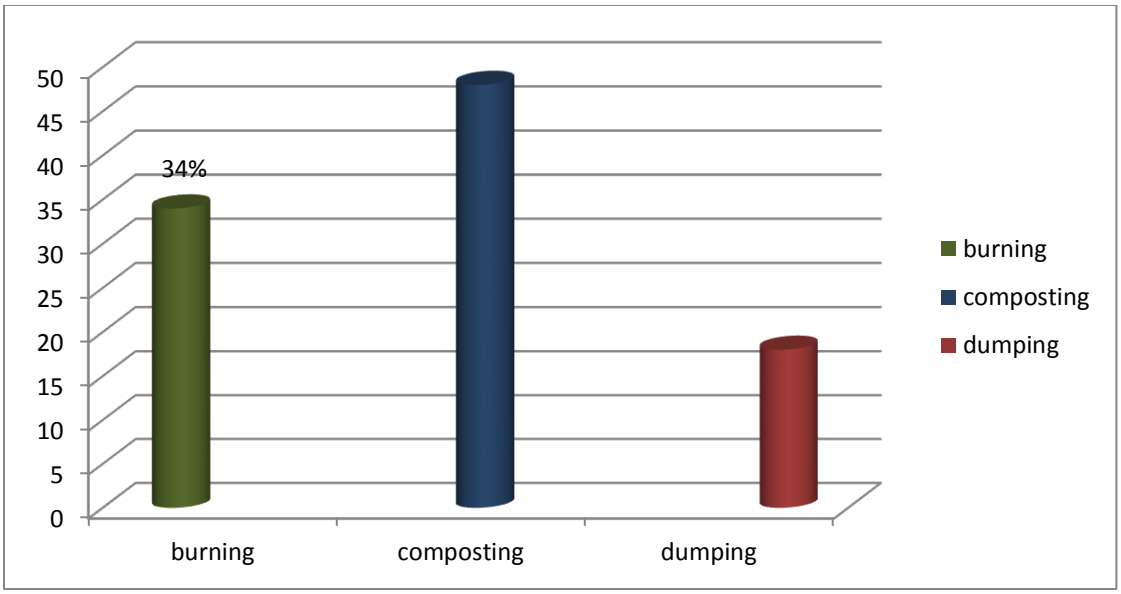


Fig 6: bar diagram shows personal habit of waste disposal

Section2: Distribution of subjects according to their knowledge score

Table2: Frequency and percentage distribution of post test knowledge score of the subjects

Level of knowledge	Score	Pre test knowledge score		Post test knowledge score	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Inadequate	≤ 50%	39	88.6%	5	11.3%
Moderate	51-75%	10	22.72%	38	86.3%
Adequate	>75%	1	2.27%	7	15.9%

Table 2 shows that in the pretest 88.6% of high school students had inadequate knowledge, 22.72% had moderate knowledge, and 2.27% of students had adequate knowledge regarding environmental pollution and its control. In the post test 11.3% of high school students had

inadequate knowledge, 86.3% had moderate knowledge, and 15.9% of students had adequate knowledge regarding environmental pollution and its control.

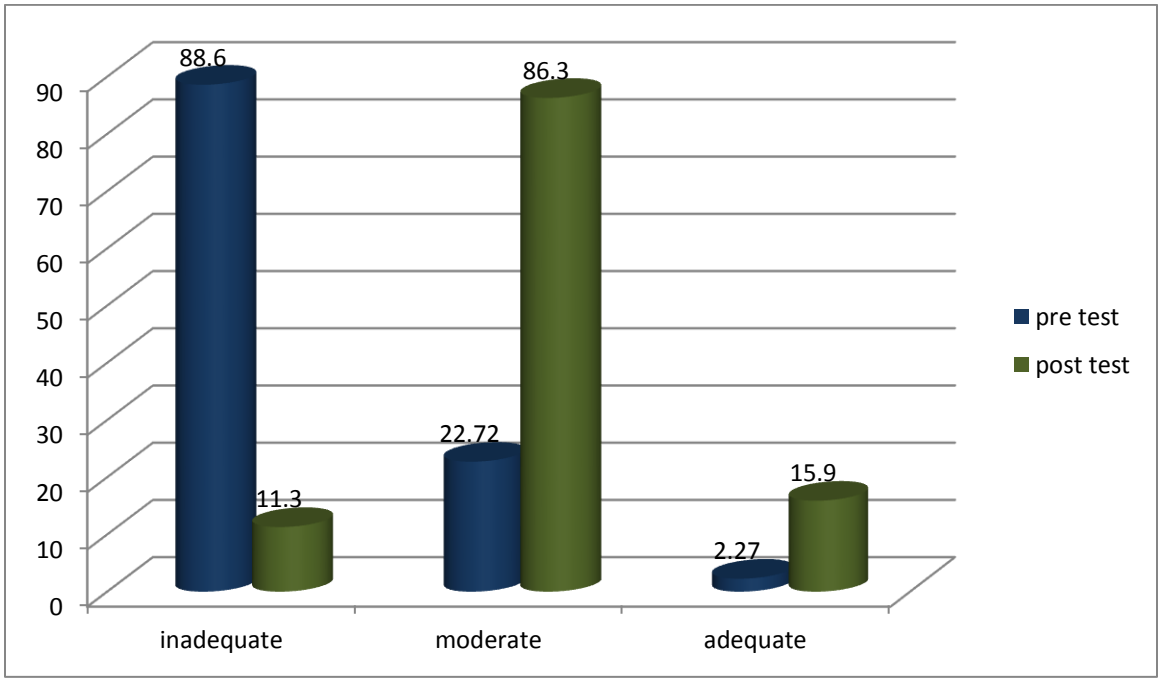


Fig 7: Bar diagram shows frequency and percentage distribution of pre test and post test knowledge score of the subject

Table 3: Mean, Mean % and SD of pretest and post test knowledge score

N=50

Knowledge score	Maximum possible score	range	mean	Mean%	SD
PRE TEST	44	18	18.5	42.04%	4.72
POST TEST	44	18	29.42	66.86%	4.21

Table 3: Shows the mean percentage of post test (66.86%) knowledge score was higher than the mean percentage of pretest (42.04%) knowledge score

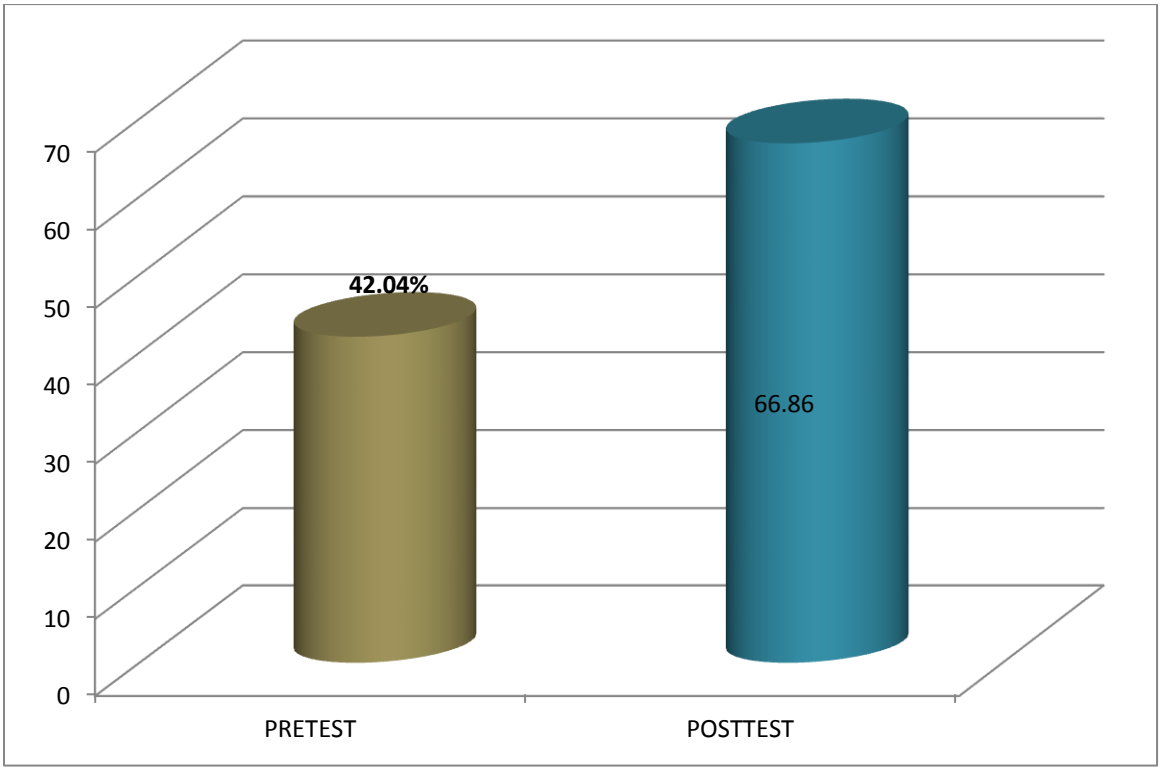


Fig 8; bar diagram: shows distribution of mean percentage of pretest and post test.

Table 4: Area - wise pre test and post test knowledge score of selected high school students of Honavar n=50

Area of knowledge	Maximum possible score	Pre test knowledge score		Post test knowledge score		Mean % actual gain score (A)	Mean possible gain score (B)	Modified gain score (A/B)
		Mean +-SD	mean	Mean +-SD	Mean			
Introduction to environmental pollution and its control(k1)	4	2.52+-0.608	63%	2.92+-0.76	73%	10	37	0.27
Type of environmental pollution and its control(k2)	9	3.26+-1.57	36.2%	5.88+-1.46	65.3%	29.1	6308	0.45
Effect of environmental pollution and its control(k3)	18	8.46+-2.54	47%	12.64+-2.19	70.22%	23.22	53	0.43
Control of environmental pollution(k4)	13	4.18+-1.73	32.15%	7.96+-2.05	61.23%	29.08	67.8	0.42

The data presented in table 4 shows that the data modified gain score was in the area of introduction of environmental pollution and its control was 0.27, type of environmental pollution and its control was 0.45, effect of environmental pollution and its control was 0.43 and control of environmental pollution and its control was 0.42

The data further indicates that the modified gain was in the area of introduction on environmental pollution and its control 0.27, type of environmental pollution and its control 0.45, effect on environmental pollution and its control 0.43, control of environmental pollution and its control 0.42.

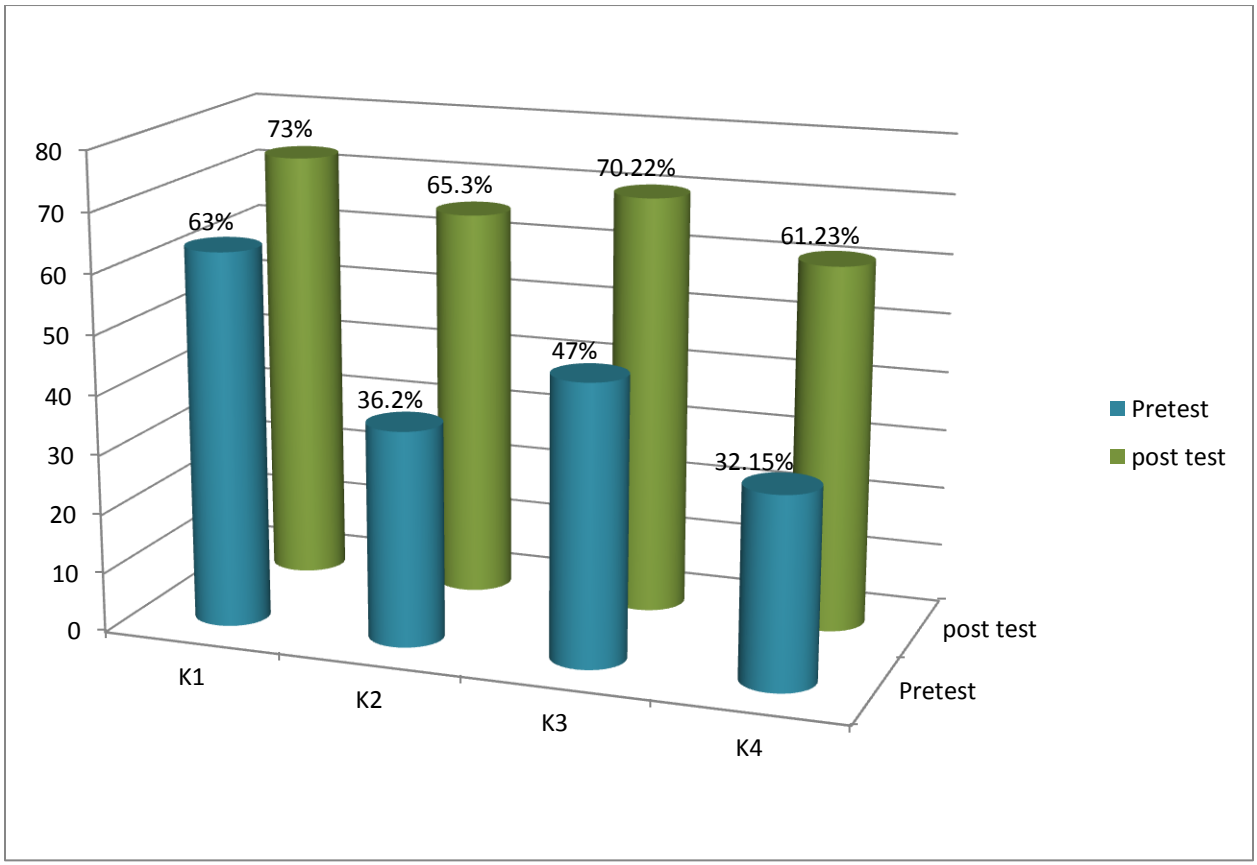


Figure 9:3D clustered column diagram depicting the area wise mean percentage of pre-test and post-test knowledge score of subjects.

Section 3: Find the effectiveness of pre-test and post- test knowledge score.

H1: There will be a significant association between the pretest and post test knowledge with their related demographic variables.

Table 5: Mean, Standard deviation (SD), Mean difference (MD) and paired "t" test of pre-test and post-test knowledge score of high school students

n=50

Knowledge score	**mean**	**Standard deviation**	**Mean difference**	**"t" value**	**remark**
Pre test	18.5	4.72	10.92	21.15*	Highly significant
Post test	29.42	4.21			

$t_{(49)}$ =1.67 *=significant

The data presented in table 5 shows that t value computed between mean pre-test and post-test knowledge score is statistically significant. Hence the research hypothesis is accepted and null hypothesis is rejected. It shows that there is a significant relation between the mean pre-test and post test knowledge score of high school students about the environmental pollution and its control.

Table 6: Area wise paired "t"test showing significant difference between pre-test and post-test knowledge score.

n=50

Area of knowledge	**Pretest knowledge score**		**Post test knowledge score**		**"t" value**
	mean	**SD**	**mean**	**SD**	
Introduction	2.52	0.60	2.92	0.76	2.98*
Type	3.26	1.57	5.88	1.46	8.41*
Effect	8.46	2.54	1.64	2.19	11.5*
Control	4.18	1.73	7.96	2.05	13.13*

T (49=1.67 *=significant

The data presented in table 6 shows that the highest: "t" value is of "section 4: control is 13.13 and the lowest "t" value is of "section 1: introduction is 2.98

<u>Section 4:</u> Association between the mean pretest score of knowledge and selected demographic variables

<u>Table 7:</u> Association between the pre tests knowledge score and selected demographic variables

N=50

Demographic variables	**category**	**sample**	**Knowledge level**				**X^2 value**	**P value**
			Adequate		**moderate**			
			mean	**%**	**mean**	**%**		
Age in year	13-14	47	6	12.7	36	76.5	0.776	P<0.05
	15-16	3	1	33.3	2	66.6		
gender	Male	25	0	0	21	54	7.26	p>0.05 *
	Female	25	7	28	17	68		
religion	Hindu	12	6	50	4	33.3	21.44	p>0.05 *
	Christian	31	0	0	30	96.7		
	Muslim	7	1	14.2	4	57.1		
Educational status	8^{TH} standard	42	7	16.6	33	78.5	1.034	P<0.05
	9^{th} standard	8	0	0	5	62.5		
Source of knowledge	Article	3	0	0	3	100	2.43	P<0.05
	Text book	4	1	25	3	75		
	internet	7	0	0	7	100		
	Peer group and family members	36	6	16.6	25	69.4		
Personal habit of waste disposal	burning	17	3	17.6	14	82.3	11.45	p>0.05 *
	composting	24	0	0	20	83.3		
	dumping	9	4	44.4	4	44.4		

$X^2(1) = 3.84$ $x2^2(2) = 5.99$ $x^2(3) = 7.82$ *significant

Table value d. f (1) =3.84, d. f (2) =5.99, d.f (3) =7.82. Probability is <0, 05 for ($) fisher exact applied, p=0.05(#) Yates correction applied .m x n applied p=0.05

Table 6 explains that

- Out of 47 respondents of 13-14 years 76.5% had moderate knowledge and 12.7% had adequate knowledge. And out of 3 respondents of 15-16 years 66.6% had moderate knowledge and 33.3% had adequate knowledge. Then the post test knowledge score of respondents by age are subjected to X^2 test. There not exists significant association in (X^2 =0.776$^{*)}$ between age and post test knowledge level.
- Association between gender and post test knowledge level of respondents, out of 25 from Male84% had moderate knowledge level and 0%had adequate knowledge. Out of 25females 68% had moderate knowledge and 28% had adequate knowledge. The post test knowledge score of respondents by gender are subjected to X^2 TEST. There exist significant association (x^2 = 7.26*) between gender and post test knowledge level of respondents.
- Association between religion and post test knowledge level of respondents, out of 12 Hindu 33.3% had moderate knowledge and 50 %had adequate knowledge. Out of 7 Muslim, 57.1 % and 14.2% had moderate and adequate knowledge respectively. From 31 Christians 69.7%had moderate knowledge and 0% had adequate knowledge. The post test knowledge score of respondents by religion are subjected to x^2 test. There exists a significant association (x^2= 21.44*) between the religion and post test knowledge level of respondents.
- Association between educational status and post test knowledge level of respondents, out of 42 respondents from 8th standard 78.52% and 16.6% had moderate and adequate

knowledge respectively. The remaining 8 from 9^{th} standard, 62.5 % had moderate knowledge and 0% had adequate knowledge. The post test knowledge score of respondents by educational status are subjected to x^2 test. There exist no significant association (X^2= 1.034*) between educational status and post test knowledge level of respondents.

- Association between post test score and score of knowledge, those usingarticle 100% had moderate knowledge and 0% had adequate knowledge. Out of 4 using text book 75% and25% had moderate and adequate knowledge respectively. That using internet 100% and0% had moderate and adequate knowledge respectively. Remaining 36 students who getting g knowledge from peer group , 69.4% had moderate knowledge and 16.6% had adequate knowledge
- Association between personal habit of waste disposal and post test knowledge level of respondents, out of 17whom burning the waste 82.3% had moderate knowledge and 17.6 % had adequate knowledge. Out of 24whom compost the waste, 83.3 % and 0% had moderate and adequate knowledge respectively. From 9whom dump the waste44.4%had moderate knowledge and 44.4% had adequate knowledge. The post test knowledge score of respondents by personal habit of waste disposal are subjected to x^2 test. There exists a significant association (x^2= 11.46*) between the personal habit of waste disposal and post test knowledge level of respondents.

Association between age and post test knowledge level on environmental pollution and its control

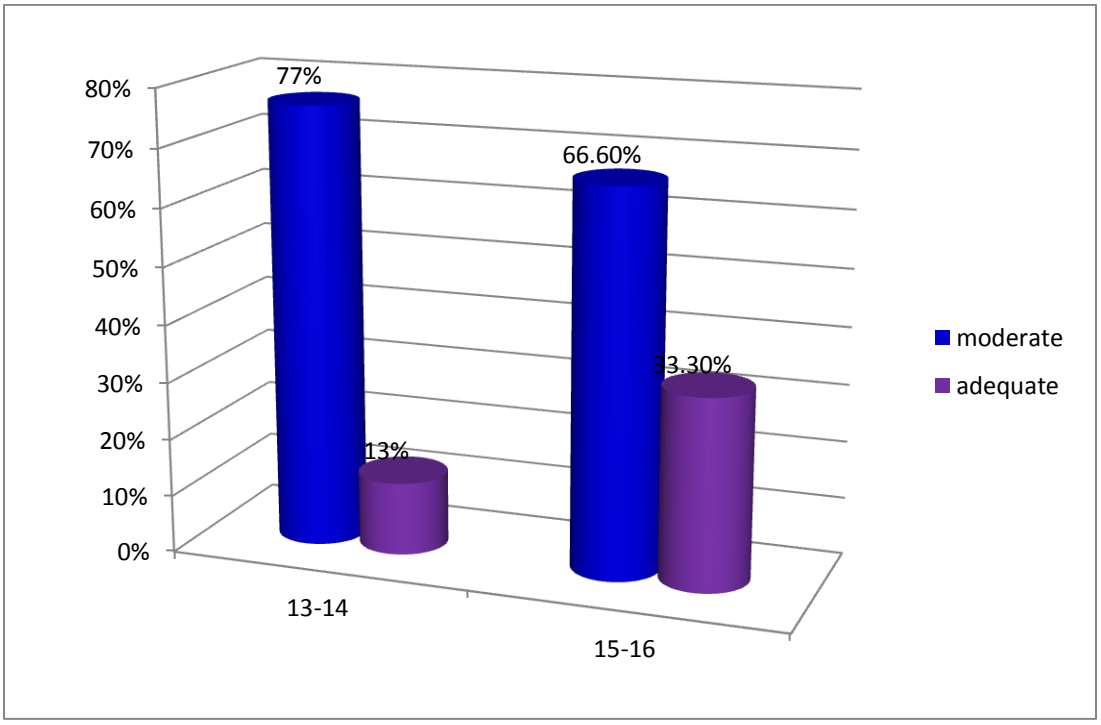


Figure: 10- association between age group and post test knowledge level on environmental pollution and its control

Association between gender and post test knowledge level on environmental pollution and its control

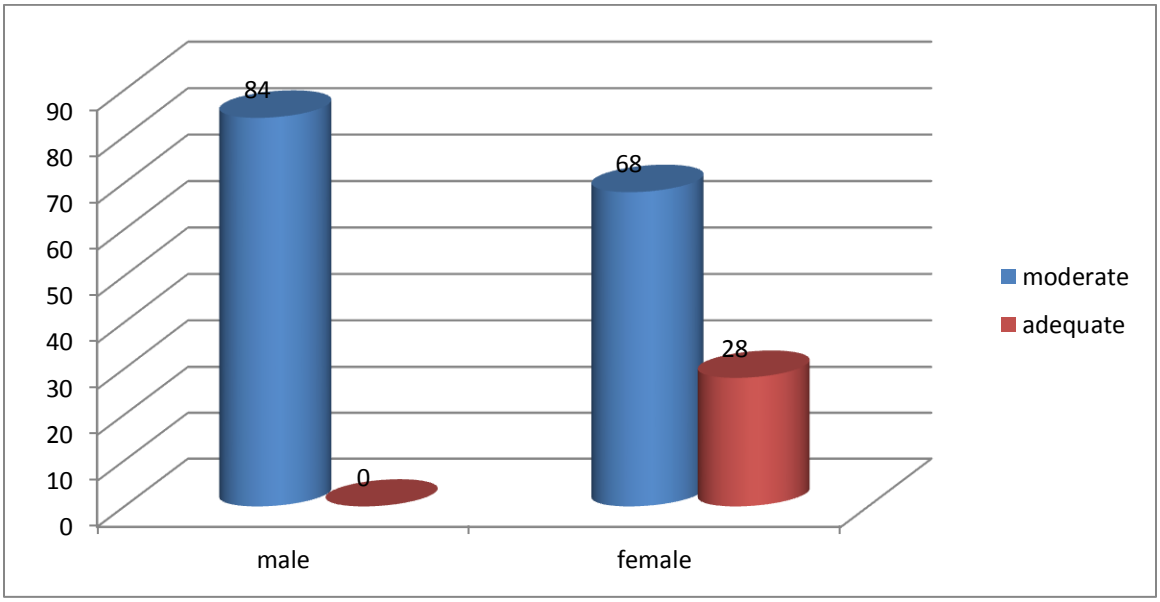


Figure: 11-association between gender and post test knowledge level on environmental pollution and its control

Association between religion and post test knowledge level on environmental pollution and its control

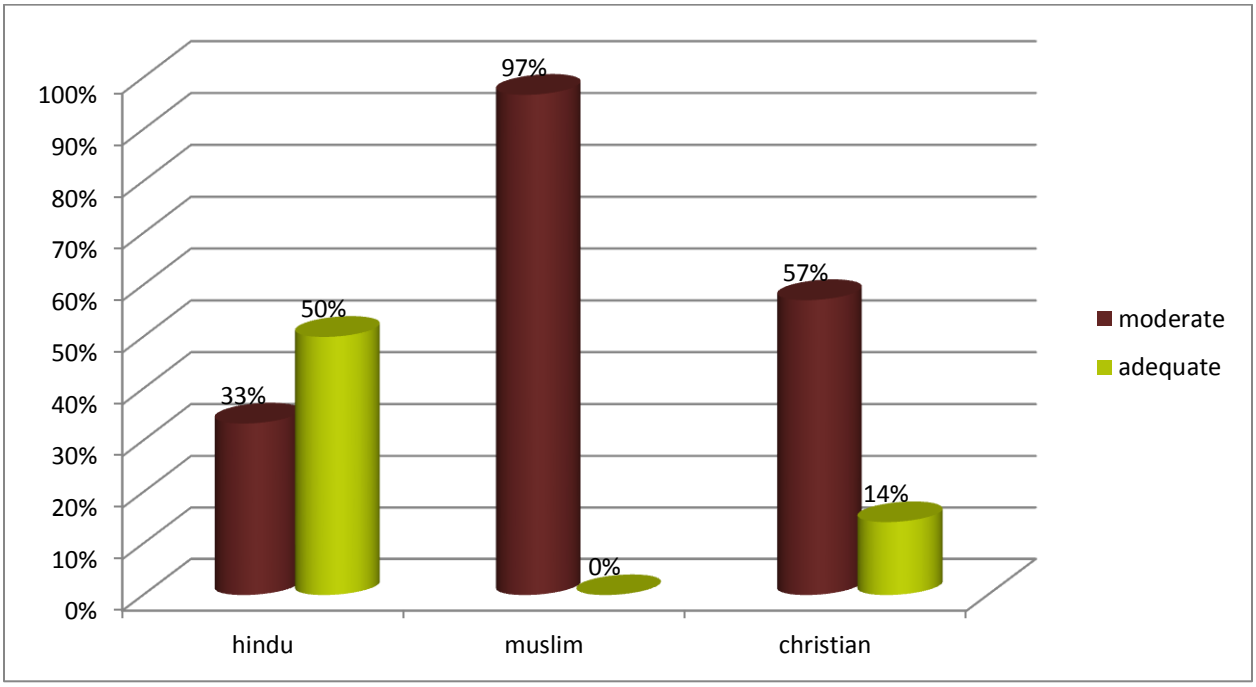


Figure: 12-association between religion and post test knowledge level on environmental pollution and its control

Association between educational status and post test knowledge level on environmental pollution and its control

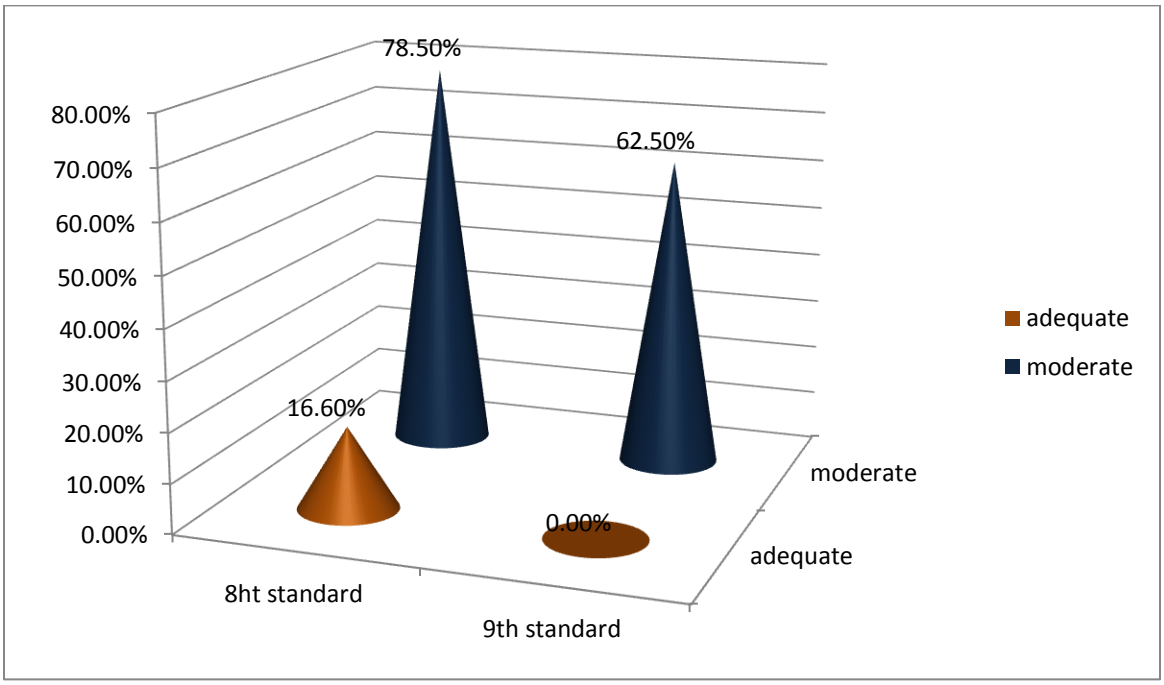


Figure13:-association between educational status and post test knowledge level on environmental pollution and its control

Association between educational status and post test knowledge level on environmental pollution and its control

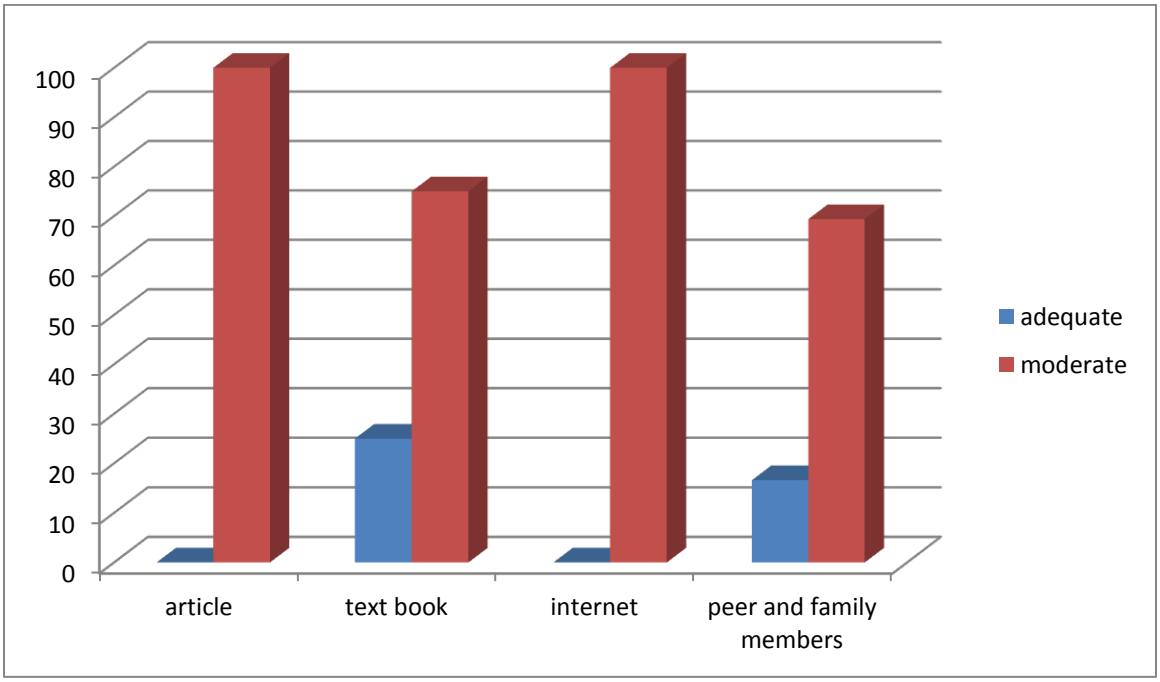


Figure14:-association between source of knowledge and post test knowledge level on environmental pollution and its control

Association between personal habit of waste disposal and post test knowledge level on environmental pollution and its control

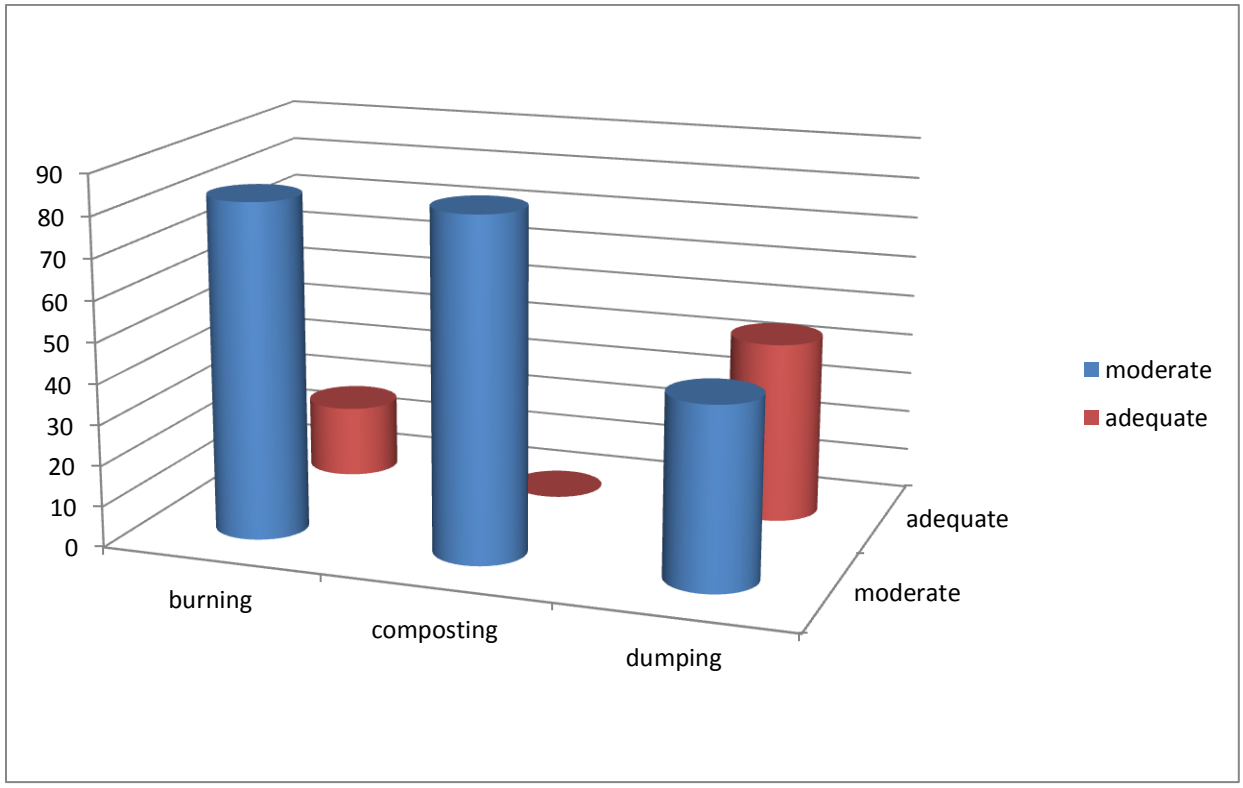


Figure15:-association between personal habits of waste disposal and post test knowledge level on environmental pollution and its control

11. CONTRIBUTION MADE TOWARDS INCREASING THE STATE OF KNOWLEDGE IN THE SUBJECT.

As the study conducted there is an increase in the knowledge level of the students of the selected schools of Honavar.

- In pre test the subject's knowledge regarding the environmental pollution and its control was inadequate, and the personal practice of waste disposal of majority of the sample was dumping.
- After the intervention there is an improvement in the knowledge level of the sample also in method of waste disposal
- They have adopted the method of waste disposal from dumping to separation of the waste in to group and dispose according to category.
- So the intervention was effective and the students practiced the good method to control the environmental pollution
- There is an increase in the pot test knowledge score of the students than the pre test score. So the intervention was effective.
- The score of the students in the control of environmental pollution has increased in the post test(7.96) than the pre test score(4.18)
- The students were able to explain the topic to others
- This study would help the public to improve their practice of waste disposal and to take effective measures to control the environmental pollution and preventing themselves from having environmental hazards and other ill consequences.

12. CONCLUSION SUMMARIZING THE ACHIEVEMENTS AND INDICATION OF SCOPE OF FUTURE WORK.

CONCLUSION

The following conclusions were drawn on the basis of the findings of the study:

- In the present study majority of the subjects 66% had average knowledge and 12% subject had good knowledge in the pretest. In the post test most of the subjects 82% had good knowledge, and 12% of subjects had very good knowledge 6% subject got average knowledge.

- The mean percentage of pre test knowledge score was 42.04% whereas post test knowledge score was 66.8%.

- There is significant difference between the mean pre test and post test knowledge scores of high school students of selected schools of Honavar regarding environmental pollution and its control as "t"value computed between pretest and post test knowledge score is statistically significant (tcal=21.15, table value t (49) =1.677, $p<0.05$) it shows that structured teaching programme (STP) was effective.

- There is a significant association between gender and educational status of post test knowledge score of environmental pollution and its control. Hence we are accepting research hypothesis it these two areas (i.e. 8.01 and 4.80)

  And in other area there is no significant association between post test knowledge score and other demographic variable (0.005, 1.7, 2.11 and 4.65) hence we are accepts the null hypothesis.

SCOPE FOR THE FUTURE WORK

The findings of the study have implications in the field of nursing practice, nursing education, nursing administration, and nursing research.

- **Community nursing practice**

In nursing practice point of view, nurses have extended and expanded roles. Nurses assume the role as health educators in promotion of health and prevention of illness. Nurses have a major role in preventing aspects than the curative aspects. The nurses should participate in preparing learning

Resource materials. There is a need for regular health education programmes to be carried out by nurses working in public health center, occupational centers and community. Nurses should create awareness among the workers and publics about nature illnesses. There is fundamental link between "education and practice" as the need for education is to inform and influence the development of nursing practice and thereby improve delivery of patient care.

- **Nursing Education**

The nursing curriculum in India gives more emphasis on environmental sanitation and community health. The nurse educators have the responsibility to update the knowledge about different environmental pollution and its control. The findings of the study can serve as guidelines for the nurse educators for planning and conducting educational programmes for student nurse regarding the prevention environmental pollution. The students during community health nursing practicals should be able to give health education to public regarding the need of

environmental sanitation and its effect on health. The nursing students should be made aware of their role in health promotion and environmental sanitation. The students should be motivated to make up innovative educational strategies like health talks in radio, television and prepare attractive audio-visual aids like pamphlets, leaflets, skits, role play, puppet shows to provide health education in different community settings school, institutions.

- **Nursing Administration**

A nurse administer is not only concerned with the authoritative dealings of recruitment and selection of his/her subordinates but also with their health and wellbeing. The nurse administrator should take initiative to make policy regarding the health education aspect for all in patient and out patients about the various health issues. She/he can guide the subordinates to prepare health awareness materials to the patients and family and students about the environmental sanitation. She/ he the key organizer of health camp and mass awareness programmes in various community school institution and hospital settings to educate the public regarding the necessity of proper environmental sanitation up in time. The nurse administrator can take art with authorities in policy implementation for maintains of environmental sanitation measures.

Nursing research

There is a need for nursing research in the area of environmental pollution and its control as little is in India .similar studies in this area can be done, so that therapeutic interventions based on the study findings can be provided. Nurse researchers may conduct studies in school and institutions settings to evaluate the effectiveness of the nursing interventions in the prevention of environmental pollution. The main goal of any profession is to provide its clientele with maximum effective and efficient services .A profession seeking to improve the practice of its

members and to enhance its professional stature strives for the continuing development of relevant body of knowledge .the present study is gives an idea to other researchers in the field of nursing or any other professionals in future regarding environmental pollution and its prevention .public health nurses should conduct more community based research in this area and to implement the prevention of environmental pollution and its control.

- **Limitations**

  - The study was confined to a specific geographical area high school (selected school of Honnavar), which obviously imposes limits to any larger generalization.
  - The sample size was minimal (50) and it cannot be generalized.

- **Suggestions**

  - Health professionals could arrange street play, dramas, and other public educating programmes in the schools, community to bring awareness among the students and general public about environmental pollution and its control.
  - Health information pamphlets must be circulated among students periodically.
  - The community leaders and health workers should be oriented and educated about the environmental pollution and its effect on health.

- **Recommendations**

  In the view of the findings and limitations of present study following recommendations are offered for further research.

  - A similar study can be conducted on a larger sample.

- A survey can be conducted to find out knowledge on environmental pollution and its control among the high school students.
- A similar study can be conducted on other group of people who need awareness about environmental pollution and its control.
- A follow up study can be taken to determine the long term effectiveness of the structured teaching programme.

13. ABSTRACT

Environmental pollution is the release of chemical waste that causes detrimental effects on the environment. It was the industrial revolution gave birth to environmental pollution as we know it today. **Aim:** this study is aimed to assess the effectiveness of planned teaching programme on knowledge regarding environmental pollution and its control among the high school students from selected school of Honavar. **Method:**True experimental design was used. Randomized sampling method was used to select 50 high school students from selected schools of Honavar. Assessment of level of knowledge regarding environmental pollution and its control was measured by structured knowledge questionnaire. After pre test, health education was given on environmental pollution and its control for duration of 45 minutes. Posttest was conducted after 7 days of intervention by using the same knowledge questionnaire. **Result:** Structured teaching programme is an intervention effective in improving the knowledge of students as the mean pre test knowledge score(42.04%) was less than the mean post test knowledge score (66.8%). The 't"value computed between pretest and post test knowledge score is statistically significant (tcal=21.15, table value $t_{(49)}$ =1.677, $p<0.05$). It shows that structured teaching programme (STP) was effective. There is a significant association between gender (p=7.26), religion (p=21.44) and personal habit of waste disposal (11.45)on post test knowledge score of environmental pollution and its control. And in other area there is no significant association between post test knowledge score and other demographic variable (0.005, 1.7, 2.11 and 4.65) score. **Conclusion:** the study concluded that structured teaching programme and other modalities had significant effectiveness in improving the knowledge. The study recommended conducting further studies on other group of people who need awareness about environmental pollution and

its control and follow up study taken to determine the long term effectiveness of the structured teaching programme.

Key words: planned teaching programme, environmental pollution, effectiveness, and school students.

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