## "Food that looks good smells good and even tastes good can contain millions bacteria"

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**Abstract**: A study entitled to evaluate the knowledge regarding prevention of food poisoning among adolescents in selected pre university colleges of Belgaum city, Karnataka

**Background:** Food is an important and basic biological need of man. Food is the prime necessity of life. It is a good culture medium and a potential carrier of infection. The food we eat is digested and assimilated in the body and used for its maintenance and growth. Food also provides energy for doing work. Man has exhibited much thought and foresight in cultivating a variety of grains, fruits, vegetables, nuts and oilseeds and in rearing birds and animals for use as food. To plan important interventions, it is necessary to find out the prevalence and factors associated with them. This study is aimed at knowledge on prevention of food poisoning among adolescents.

#### Objectives of the study:

- 1) To assess the knowledge regarding prevention of food poisoning among adolescents.
- 2) To evaluate the effectiveness of structured teaching programs regarding prevention of food poisoning among adolescents.
- 3) To find out the association between pre-test knowledge scores and selected demographic variables.

Method: The conceptual framework of the study was based on "Imogene Kings Goal Attainment Theory (1971)". This theory consists of interacting components like central purpose, realities, agent, recipient, goal, means, framework, nursing practice, identification, administration and validation between the research investigator and the adolescents of selected pre-university colleges of Belgaum, Karnataka.

The Hypothesis formulated for study were:

H1.The mean post-test knowledge scores will be higher than their mean pre test knowledge scores of adolescents regarding prevention of food poisoning at 0.05 level of significance.

H2: There will be statistically significant association between pre-test knowledge scores of adolescents with their selected socio-demographic variables at 0.05 level of significance.

The study was conducted using pre experimental one group pretest, posttest design. The research variable was knowledge regarding prevention of food poisoning, while the demographic variables were age of the students, religion of the students, educational status of the participant, education status of parents, occupation of the parents, type of family, income of the family, sources of information; past history of food poisoning.

The study was conducted on a sample of 120 selected pre-university of PUC 1st and 2nd year adolescents using simple random sampling from four different colleges of four zones of Belgaum city and selected Pre-university adolescents from four zones of Belgaum, Karnataka, using stratified random sampling technique. The instruments used for data collection were structured knowledge questionnaire. The data obtained was tabulated and analyzed in terms of objectives of the study, using descriptive and inferential statistics.

**Results:** In the present study it was found that out of 120 Pre-university adolescents, about 40 (33.33%) of adolescents were 16 yrs of age and 56(46.67%) were 17 yrs of age. Majority of students 90 (75%) were Hindu. Around 60 (50%) of adolescents were PUC 2nd yr and 60 (50%) were PUC 1st yr. Majority of the students, educational status of parents was 29 (24.17%) was graduation and above, 25(21.67%) were higher secondary school, 24 (20.00%) had primary school, 21 (17.5%) had secondary school and minimum non 16(13.3) non formal education. Regarding occupation of parents 48(40.00%) were private employee, 17(14.17%) were farmers, 27(22.50%) were doing business & 28(23.33%) were government employee.

Majority of students, 70 (58%) were nuclear, 50 (41.67%) were joint. Majority of students 34 (28.33%) family income was above Rs7000/- rupees, 30 (25.00%) had Rs 5001/- to Rs 6000/-rupees, 36 (30.00%) was below Rs 5000/-rupees and minimum 24 (20.00%) was Rs 6001/- to Rs 7000/- rupees. Major source of information 43 (35.83%) was from neighbours and friends, 38 (31.67%) was through mass media, 22 (18.33%) was from health professionals and minimum 17 (14.17%) from electronics media.

The findings on assessment of knowledge regarding prevention of food poisoning 114 (95%) adolescents had average knowledge and 06 (5%) had poor knowledge.

After the administration of structure teaching programme, the pre-test and post-test data analysis revealed that the mean post-test score  $(25.98\pm1.89)$  was higher than the mean pre test score  $(14.84\pm3.25)$ .

Statistical analysis using chi-square, to find association between the knowledge of selected pre-university adolescents and selected variables, revealed that the knowledge scores and demographic variables are independent of each other at 0.05 level of significance.

**Key Words:** Prevention of food poisoning; among pre-university adolescents structure teaching programme; knowledge.

Date of Submission: 05-06-2018

Date of acceptance: 20-06-2018

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#### I. Introduction

A poison – also called a toxin – is a substance which, if taken into the body in sufficient quantity, may cause temporary or permanent damage. Poisons can be swallowed, absorbed through the skin, inhaled, splashed into the eyes, or injected. Once in the body, they may enter the blood stream and be carried swiftly to all organs and tissues. Clinical features vary with the poison – they may develop quickly or over a number of days. I

Food is an important and basic biological need of man. Food is the prime necessity of life. It is a good culture medium and a potential carrier of infection. The food we eat is digested and assimilated in the body and used for its maintenance and growth. Food also provides energy for doing work. Man has exhibited much thought and foresight in cultivating a variety of grains, fruits, vegetables, nuts and oilseeds and in raring birds and animals for use as food. \(^1\).

Food is any substance consumed to provide nutritional support for the body. It is usually of plant or animal origin, and contains essential nutrients, such as carbohydrates, fats, proteins, vitamins, or minerals. The substance is ingested by an organism and assimilated by the organism's cells in an effort to produce energy, maintain life, or stimulate growth.

Everyone who works with food is responsible for ensuring that consumers are protected from contaminated food and the risk of food poisoning, which causes extreme discomfort, absence from work or school and, in some cases, death. People get sick from food poisoning because the food they've eaten has contained bacteria, viruses or chemicals. It can take from an hour to a few days to develop food poisoning, depending on the cause, and the best way of preventing food poisoning is to use safe food handling practices.<sup>2</sup>

Acute food borne disease infections and intoxications are much more of a concern to governments and the food industry today than a few decades ago. Some of the factors that have lead to this include the identification of new agents that have caused life-threatening conditions; the finding that traditional agents are being associated with foods that were of no concern previously: An increasing number of large outbreaks being reported; the impact of food borne disease on children, the aging population and the immune compromised, migrant populations demanding their traditional foods in the countries of settlement; the case of worldwide shipment of fresh and frozen food; and the development of new food industries, including aquaculture. However, to meaningfully monitor increases or decreases in food borne disease requires an effective surveillance system at the local, national and international levels.<sup>3</sup>

Control programmes have often been triggered by the conclusions from investigations of specific outbreaks. Unfortunately, the agent/food combination leading to illness in many of the reported incidents were not predicted from existing databases, and no doubt food borne agents will continue to surprise and control agencies in the foreseeable future. Nevertheless, data from around the world do show some common elements. Salmonella is still the most important agent causing acute food borne disease, with Salmonella enteritidis and S. typhimurium being of most concern.<sup>3</sup>

Foods of animal origin, particularly, meat eggs, were most often implicated. Desserts, ice cream and confectionery items were products also mentioned, but some of these would have egg as a raw or incompletely cooked ingredient. Incidents most frequently occurred in home or restaurants, and the main factors contributing to outbreaks were poor temperature control in preparing, cooking and storing food. Clostridium botulinum, Salmonella and VTEC are more frequently documented in industrialized than in developing countries. ETEC, EPEC, Shigella, Vibrio cholera and parasites are the main scourges in developing countries, but it is uncertain how many cases are attributed to food, to water or to person-to-person transmission.<sup>4</sup>

The apparent decrease of S.aureus and C.perfringens outbreaks in industrialized countries may be related to improved temperature control in the kitchen. An increasing number of illnesses are international in scope, with contamination in a commercial product occurring in one country and affecting persons in several other countries, or tourists being infected abroad and possibly transmitting the pathogen to others at home. For Salmonella, a rapid alert and response coordination is being encouraged through Salm-Net and

other international programs. However, unless such a network is worldwide, tracking clusters of illnesses is going to fall on the countries where the first cases occur, and some of these have very limited resources for investigation and control. It was heartening to see funds recently being allocated to food borne disease surveillance and control in several industrialized countries, but the same commitment is required by the World Health Organization for the international community.<sup>5</sup>

Adolescents are young adolescence (from Latin adolescere, meaning "to grow up")<sup>[1]</sup> is a transitional stage of physical and psychological human development that generally occurs during the period from puberty to legal adulthood (age of majority) Adolescents are young people between the ages of 10 and 19 years – are often thought of as a healthy group.<sup>6</sup>

Today, 1.2 billion adolescents stand at the crossroads between childhood and the adult world. Around 243 million of them live in India. The vast majority of the world's adolescents – 88 percent – live in developing countries. The least developed countries are home to roughly 16 percent of all adolescents. Adolescents represent only 12 percent of people in the industrialized world. In contrast, they account for more than 1 in every 5 inhabitants of sub-Saharan Africa, South Asia and the least developed countries.<sup>7</sup>

Food poisoning occurs when bacteria grows in a food source and then is consumed. Eating the contaminated food can cause the person to become very sick as the body tries to expel the bacterial from the body. Usually, food poisoning is mild and may just result in a day or two of illness. Sometimes, food poisoning can be severe and may required hospitalization. Children may be more susceptible to food poisoning as their immune systems are still developing<sup>3</sup>.

#### Results

The chapter presents the analysis and interpretation of the data collected, to evaluate the effectiveness of structure teaching programme on knowledge regarding prevention of food poisoning among adolescents in selected Pre university colleges, Belgaum city.

Analysis is the process of organizing and synthesizing data, so as to answer research question and test hypothesis. After carefully collecting data, the researcher is faced with the task of organizing the individual pieces of information, so that the meaning is clear. Interpretation is the process of making sense of the results and of examining this implications. <sup>45</sup>

The data were analyzed according to objectives of the study, which were

- 1. To assess the knowledge regarding prevention of food poisoning among adolescents in selected preuniversity colleges, Belgaum city.
- 2. To evaluate the effectiveness of structure teaching programme on knowledge regarding prevention of food poisoning among adolescents in selected pre university colleges, Belgaum city.
- 3. To find out the association between pre-test knowledge score with their selected socio demographic variables.

#### HYPOTHESES:

- 1. H1.The mean post-test knowledge scores will be higher than their mean pre test knowledge scores of adolescents regarding prevention of food poisoning at 0.05 level of significance.
- 2. H2: There will be statistically significant association between pre-test knowledge scores of adolescents with the selected socio-demographic variables at 0.05 level of significance.

The investigator collected the data for analysis and interpretation, using a structured knowledge questionnaire. In order to examine the proposed associate on the data was tabulated, analyzed and interpreted, using descriptive and inferential statistics. The data collected are presented under the following headings.

- 1. Distribution of samples characteristics according to socio demographic variables of adolescents.
- 2. Distribution of knowledge of adolescents regarding prevention of food poisoning.
- 3. Evaluation of effectiveness of structure teaching programme in terms of gain in the post test knowledge scores regarding prevention of food poisoning.
- 4. Data describing association between knowledge with their selected socio demographic variables.

### Section I: Findings related to socio demographic variables.

**Table no 1:** Frequency and percentage distribution of adolescents according to socio demographic variables. n =120

Sl.no	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1	Age in years		
	a)16 year	40	33.33%
	b)17year	56	46.67%
	c)18 year	24	20.00%
2	Sex		

DOI: 10.9790/1959-0703087386 www.iosrjournals.org 75 | Page

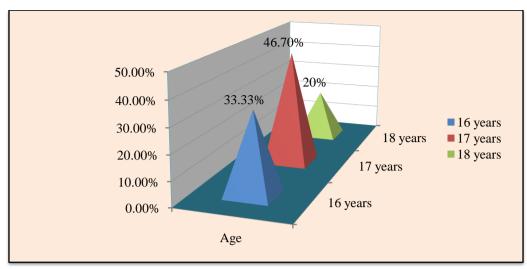
	Male	70	58.33%
	Female	50	41.67%
3	Religion		
	a)Hindu	90	75.00%
	b)Muslim	14	11.67%
	c)Christian	16	13.33%
4	Educational status of the participants		
	a)PUC 1st year	60	50.00%
	b)PUC 2nd year	60	50.00%
5	Education status of parents		
	a)Non formal education	16	13.33%
	b)Primary education	24	20.00%
	c)Secondary education	25	20.83%
	d)Higher secondary	26	21.67%
	e)Graduation &Above	29	24.17%

6	Occupation of the parents		
	a)Farmer	17	14.17%
	b)Private employee	48	40.00%
	c)Business	27	22.50%
	d)Government employee	28	23.33%
7	Type of family		
	a)Nuclear	70	58.33%
	b)Joint	50	41.67%
8	Income of the family		
	a)Below Rs 5000/-	36	30.00%
	b)Rs 5001-Rs 6000/-	30	25.00%
	c)Rs 6001 -Rs 7000/-	24	20.00%
	d)Above Rs 7001/-	30	25.00%
9	Source of information		
	a)Mass media	38	31.67%
	b)Health professional	22	18.33%
	c)Family member	17	14.17%
	d)Neighbor and Friends	43	35.83%
10	History of food poisoning		
	a)No	90	75.00%
	b)Yes	30	25.00%

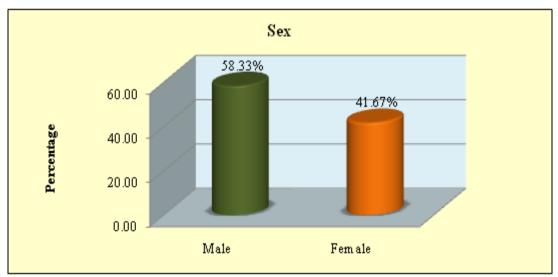
#### The data presented in Table no. 1 indicated that,

In the present study it was found that out of 120 adolescents, about 40 (33.33%) of adolescents were 16 yrs of age, 56(46.67%) were 17 yrs of age, and 24 (20%) were in the age of 18 years. Majority of students 90 (75%) were Hindu, 16 (13.33%) were Christian and 14 (11.67%) were Muslims. Around 60 (50%) of adolescents were PUC 2nd yr and 60 (50%) were PUC 1st yr. Majority of the subjects, educational status of parents was 29 (24.17%) was graduation and above, 25(21.67%) were higher secondary school, 24 (20.00%) had primary school, 21 (17.5%) had secondary school and minimum 16(13.3)non formal education. Regarding occupation of parents 48(40.00%) were private employee, 17(14.17%) were farmers, 27(22.50%) were belong to business & 28(23.33%) were government employee.

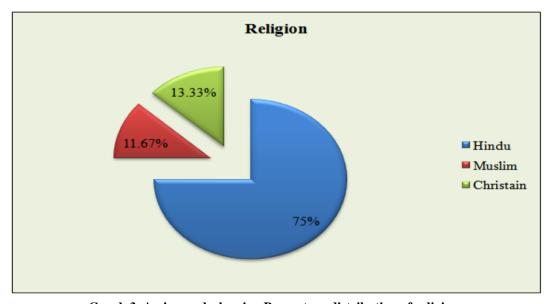
Majority of students, 70(58%) were from nuclear family, 50(41.67%) were from joint family,. Majority of students 34 (28.33%) family income was above Rs7000/-, 30 (25.00%) had Rs 5001/- to Rs 6000/-, 36(30.00%) was below Rs 5000/- and minimum 24 (20.00%) was Rs 6001/- to Rs 7000/-. Majority of the adolescents had source of information, 43 (35.83%) was from neighbors and friends, 38(31.67%) was through mass media, 22 (18.33%) was from health professionals and minimum 17 (14.17%) from family members.



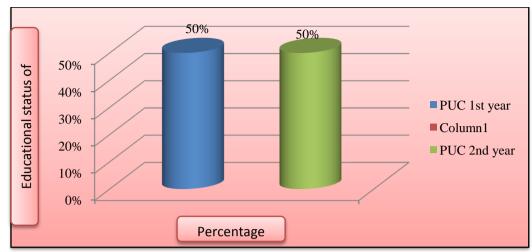
Graph 1. A cylindrical graph showing Percentage distribution of age



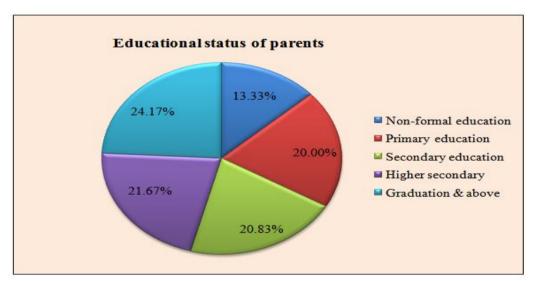
Graph 2. A cylindrical graph showing Percentage distribution of Sex



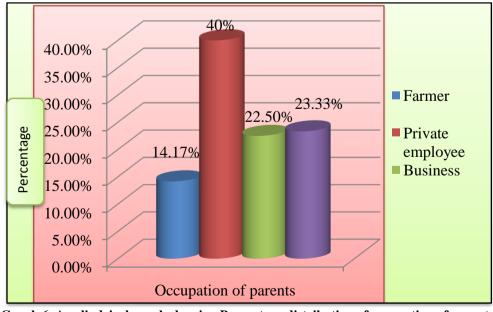
Graph 3. A pie graph showing Percentage distribution of religion



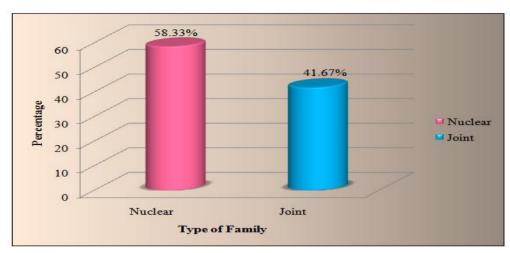
Graph 4. A cylindrical graph showing Percentage distribution of educational status of participant



Graph 5. A pie graph showing Percentage distribution of educational status of parents.



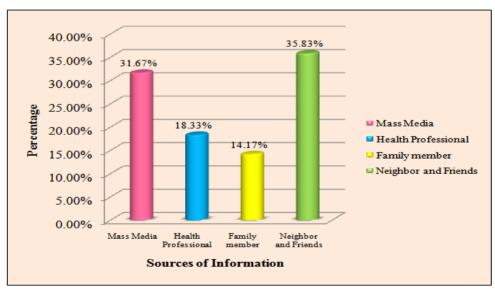
Graph 6. A cylindrical graph showing Percentage distribution of occupation of parents



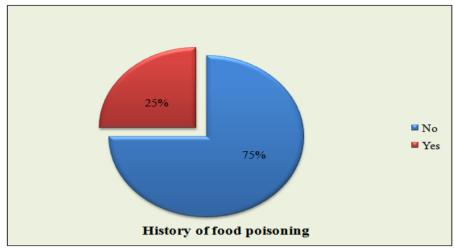
Graph 7. A cylindrical graph showing Percentage distribution of type of family



Graph 8. A cylindrical graph showing Percentage distribution of income of family



Graph 9. A Cylindrical graph showing percentage distribution according to sources of information regarding prevention of food poisoning

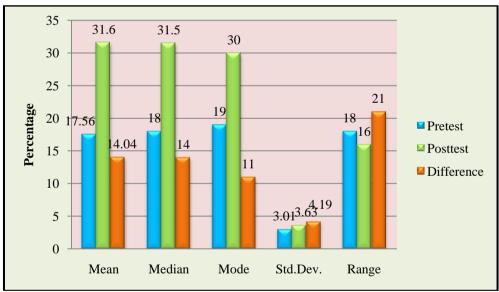


Graph 10. A pie graph showing Percentage distribution of history of food poisoning

Section II: Analysis and interpretation of knowledge scores of adolescents on prevention of food poisoning.

Table 2: Mean median, mode, standard deviation and range of knowledge scores of adolescents regarding prevention of food poisoning n=120

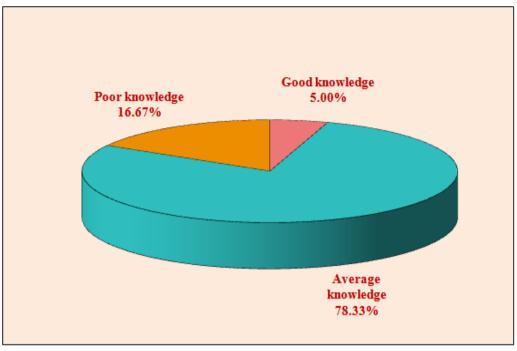
Area of analysis	Mean	Median	Mode	Std. Dev.	Range
Pretest	17.56	18.00	19.00	3.01	18.00
Posttest	31.60	31.50	30.00	3.63	16.00
Difference	14.04	14.00	11.00	4.19	21.00



Graph 11: Column graph showing mean, median, mode, standard deviation and range of pretest and post test scores

Table 3: Frequency and percentage distribution of pre test knowledge scores of adolescents regarding prevention of food poisoning n=120

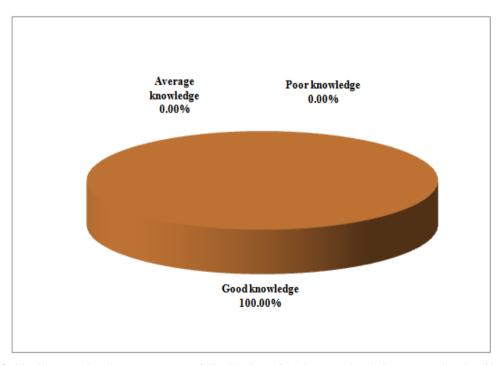
Level of knowledge	Score range	Frequency	Percentage
Good	21-38	6	5.00
Average	13-20	94	78.33
Poor knowledge	0-12	20	16.67



Graph 12: Pie diagram showing percentage of distribution of students by their pretest levels of knowledge

Table 4: Frequency and percentage distribution of post test knowledge scores of adolescents regarding prevention of food poisoning n = 120

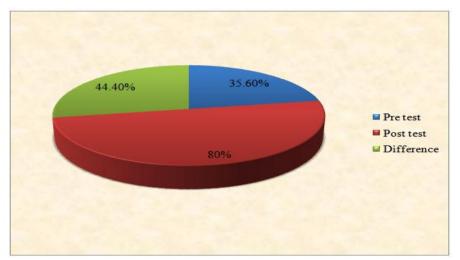
Level of knowledge	Score range	Frequency	Percentage
Good knowledge	21-38	120	100.00
Average knowledge	13-20	0	0.00
Poor knowledge	0-12	0	0.00



Graph 13: Pie diagram showing percentage of distribution of adolescents by their post test levels of knowledge

**Table 5:** Pretest and post test knowledge scores of adolescents in different items on prevention of food poisoning

poisoning							
Item No			Mean % of k	Mean % of knowledge scores of students			
			Total score	Pretest (%)	Posttest (%)	Gain in knowledge	
			4560	X	У		
Prevention	of	food					
poisoning				35.6	80%	44.44	



**Graph 14:** Pie diagram showing mean % of gain in knowledge scores of adolescents during pretest and post test.

### **Testing of Hypothesis**

# Section III: Evaluation of effectiveness of structure teaching programme on knowledge regarding prevention of food poisoning.

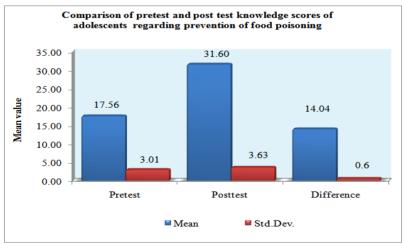
H1: The mean post-test knowledge scores of the subjects exposed to structure teaching programme will be higher than their mean pre test knowledge scores at 0.05 level of significant.

**Table 6:** Comparison of pretest and posttest knowledge scores of adolescents regarding prevention of food poisoning (n= 120)

MEAN DIFFERENCE	STANDARD	PAIRED 't' TEST		P VALUE	
	DEVIATION	CAL	TAB		
14.04	4.19	36.6792*	1.960	0.00001	

\*p<0.05table

Table 6 revealed that the calculated t value (t=36.6792) was greater than the tabulated t value t=1.960. **Hence H<sub>1</sub>** was accepted.



**Graph 15.** Bar graph showing comparison of pretest and posttest knowledge scores of adolescents regarding prevention of food poisoning

# Section IV: Analysis and Interpretation of data to find out an association between pretest knowledge scores of adolescents with their selected socio demographic variables.

H2: There will be statistically significant association between pre-test knowledge scores of adolescents with their selected socio-demographic variables at 0.05 level of significance.

Table 7: Association between pretest knowledge scores with their selected socio demographic variables n=120

Sl.n o	Demographic variables	Good	Average	Poor	$\chi^2$	$\chi^2_{ m tab}$	Df
1	Age						
	a)16 year	2	30	8	5.2596	7.815	4
	b)17 year	1	45	10	NS		
	c)18 year	3	19	2			
2	Sex						
	Male	3	51	12	0.2840	5.991	2
	Female	3	43	8	NS		
3	Religion						
	a)Hindu	6	71	13	4.6445	7.815	4
	b)Muslim	0	12	2	NS		
	c)Christian	0	11	5			
4	Educational status of the participant						
	a)PUC 1st year	3	47	10	0.0000	5.991	2
	b)PUC 2nd year	3	47	10	NS		
5	Education of parents						
	a)Non formal education	0	8	8	20.1896*	15.507	8
	b)Primary education	3	19	2	S		
	c)Secondary education	0	21	4			
	d)Higher secondary	1	23	2			
	e)Graduation &Above	2	23	4			
6	Occupation of the parents						
	a)Farmer	1	11	5	9.7810	12.592	6
	b)Private employee	3	40	5	NS		
	c)Business	0	19	8			
	d)Government employee	2	24	2			
7	Type of family						
	a)Nuclear	4	54	12	0.2247	5.991	2
	b)Joint	2	40	8	NS		
8	Income of the family			1			
	a)Below Rs 5000/-	2	30	4	5.0290	12.592	6
	b)Rs 5001-Rs 6000/-	3	23	4	NS		
	c)Rs 6001 -Rs 7000/-	0	19	5			
	d)Above Rs 7001/-	1	22	7			
9	Source of information						1
	a)Mass media	3	28	7	5.9216	12.592	6
	b)Health professional	0	17	5	NS		
	c) Family members	1	16	0			
	d)Neighbor and Friends	2	33	8			
10	History of food poisoning						
	a)No	3	72	15	2.1277	5.991	2
	b)Yes	3	22	5	NS		

Significant. NS- Not significant

Table 7 revealed that the calculated chi square values of all the socio demographic variables such as age , religion , educational status of participant , occupation of parents , type of family , income of family , source of information and history of food poisoning were less than the tabulated chi square values. Hence H2 was rejected. While the calculated chi square value of socio demographic variable such as educational status of

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parents ( $\chi^2$ =20.1896) was more than the calculated chi square value ( $\chi^2$ =15.507). Hence,H<sub>2</sub> was accepted. This revealed that there was significant association between pre-test knowledge score of Adolescents with their socio selected demographic variable.

#### II. Discussion

The present study has been undertaken to evaluate the effectiveness of structure teaching program on knowledge regarding prevention of food poisoning among adolescents in selected Pre university colleges, Belgaum city. In this section, the findings of the study are discussed under the following headings:

- 1. Findings related to socio-demographic variables of adolescents.
- 2. Findings related to gain in the level of knowledge regarding prevention of food poisoning among adolescents in selected pre-university colleges, Belgaum city.
- 3. Findings related to association between the pre-test knowledge scores with their selected demographic variables of the adolescents.

### Findings related to socio demographic data of adolescents.

In the present study, sample sizes of 120 adolescents studying in selected pre-university colleges, Belgaum city were undertaken for the study. In Indian circumstances the adolescents are more prone to get the food poisoning illnesses as they often and most of the time of the day found in grounds and most affectionate to street foods. During the time of play (while playing in the ground) most of the time they will not go for hand washing before having food and if they do hand washing they will do with plane water without soap. This was firmly highlighted by Yelein S.S and Altin.S in the year 2011 in their study.

In the present study it was found that out of 120 adolescents, about 40 (33.33%) of adolescents were 16 yrs of age, 56(46.67%) were 17 yrs of age, and 24 (20%) were in the age of 18 years. It clearly indicates that the study was conducted between the age group of 16-18 years where the development i.e. mental is almost equal which will help the investigator to minimize the bias in the study. This was clearly stated by the author Prof. M.A Abdulla (2008) in his study.

India is Hindu religion dominated country. Hence Majority of students 90 (75%) were Hindu, 16 (13.33%) were Christian and 14(11.67%) were Muslims. Around 60 (50 %) of adolescents were PUC 2nd yr and 60(50%) were PUC 1st yr.

In schools and colleges the students may not undergo or study all the general issues and 99% of the students concentrate of their subjects and does not show much interest on moral and habitual habits. In such case the parent's role plays an important entity in gaining the other knowledge than their study. Hence the investigator thought to find out the subjects parent educational status.

According to the findings of the study, majority of the subjects, parents educational status was graduation 29 (24.17%) and above, 25(21.67%) were higher secondary school, 24 (20.00%) had primary school, 21 (17.5%) had secondary school and minimum of 16(13.3) were had no formal education. According to 2011 statistics the literacy rate of urban citizens in Karnataka was 87% and most of the urban population is educated population and we do get low percentage of illiterates in the urban area and it is proved by statistical evidence released by Ministry of Health and Family Welfare in the year 2011 census report.

Regarding occupation of parents 48(40.00%) were private employee, 17(14.17%) were farmers, 27(22.50%) were doing business & 28(23.33%) were government employee. In urban area the people majority of the people were employed and involved in the one or the other activity which will help them to become economically stable. In such cases the majority of people will neglect their children. This was proved by Prof. Chanachai K. In his study named outbreak of gastroenteritis in the year 2008.

Family composition plays an important in growth and development of children. So the investigator decided to take a view on family composition of subjects in his study. The majority of students, 70 (58.%) were from nuclear family, 50(41.67%) were from joint family. It is proved in many studies conducted by various authors and investigator that in most of the cases children were neglected in nuclear families of urban area as the both family members have to work outside for their income and children have to be taken care by themselves or by child care takers.

Majority of adolescents, 34 (28.33%) family income was above Rs7000/- , 30 (25.00%) had Rs 5001/- to Rs 6000/-, 36(30.00%) was below Rs 5000/- and minimum 24 (20.00%) was Rs 6001/- to Rs 7000/- rupees. In most of the conditions the family income plays important role in nutritional status of family members. Hence the subjects will fulfill their nutritional requirement according to their purchasing capacity and also try to maintain hygiene while handling and storage of foodstuffs. This was proved by M.S. Sunitha in her study (2004)

Electronic and mass media are the strongest means of communication at present world. Hence the investigator wanted to know that how much these medias have implication on knowledge of the subjects. The major source of information 43 (35.83%) was from neighbors and friends, 38(31.67%) was through mass media, 22 (18.33%) was from health professionals and minimum 17 (14.17%) from family members. In this study

family members have less implication than others because the students of PU college most of the time engaged themselves in the study.

#### Findings related to effectiveness of structured teaching programme.

The analysis was done to find out effectiveness of structured teaching programme. Pre-test and post test knowledge scores was found using paired 't' test formula. The finding, 't'= 36.67 there is a significant gain in the knowledge between the pre-test and post-test knowledge score. Hence  $H_1$  is accepted. These findings are similar to the findings of the study conducted by MA Abdulla (2008) and Yellin SS (2011).

# Findings related to association between the existing pre-test knowledge scores of adolescents with their socio-demographic variables.

The analysis was done for the association between the existing pre-test knowledge scores with their selected socio-demographic variables. Since the  $\mathbf{X}^2$  Cal  $>\mathbf{X}^2$  tab: Hence  $H_2$  was accepted. These findings are similar to the findings of the study conducted by MA Abdulla (2008) and Yellin SS (2011).

#### **III. Conclusion**

Based on the analysis of the following conclusion or drawn. Overall pre-test knowledge –about Food poisoning was average. There was a need for Structured Teaching Programme for adolescents of food poisoning. Post test results showed significant improvement in the level of knowledge on food poisoning. Thus, it can be concluded that structured Teaching Programme is effective method for adolescents to increase and update their knowledge on food poisoning. The results revealed that there is an association between pre-test knowledge and sociodemographic variables.

#### NURSING IMPLICATION

The findings of the study have varied implications in different areas of nursing practice. Nursing administration, nursing education, and nursing research.

#### NURSING EDUCATION

Findings of the study can be used by the nurse educators to highlight the importance of food hygiene in children suffering with food poisoning. This structured teaching programme can be used by staff nurse as well as by the student nurses to give health education in their respective practice areas.

#### **NURSING PRACTICE:**

Since the present study showed that most of the adolescents had average knowledge on food poisoning, this study will enable them to become aware of importance of hygiene in handing and preparation food stuffs. They will also be able to educate the other adolescents, their friends and relatives. The nurses can utilize this STP in educating the adolescents and also use in preparing health education plan.

#### NURSING ADMINISTRATION:

This study emphasize the need for in-service education programme or staff development programme on food poisoning to improve and apply the knowledge in their day to day life. The STP can be used during inservice education programmes.

#### **NURSING RESEARCH:**

Based on the findings, nursing professionals and nursing students can conduct small projects in schools and colleges in different settings. The present study conducted by the investigator can be a source of review of literature for others, who are intending to conduct studies on food poisoning.

### LIMITATIONS

- 1) The present study was limited to adolescents who are studying in pre-university colleges to Belgaum City.
- 2) No broad generalization could be made due to the small size of sample and limited area of setting
- 3) The tool used for the data collection was not standardized. It was designed by the investigator himself for the purpose of the present study based on the objectives of the study.
- 4) No attempt was made to control the extraneous variables like mass media, family friends etc.
- 5) The sampling technique used was stratified random sampling may give a representative sample.

#### Recommendations

- 1) A similar study on large and wider sample for a longer period of time would be more pertinent in making broad generalizations.
- A self instructional module (SIM) on knowledge of food poisoning can also be used to improve the 2) knowledge.
- The study can be done with an experimental research approach having a control group.
- A comparative study can be conducted between urban and rural adolescents.

In this chapter, the investigator has tried to rationalize his findings with other studies and with his own experience at the time of this data collection process. He has also specified the various implications and limitations of his study with regard to the nursing profession. This chapter can thus guide the new learners to study more in depth about this topic and compare their findings to it.

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