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### “A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAM ON KNOWLEDGE REGARDING FOOD BORNE DISEASES AND FOOD SAFETY AMONG STUDENTS”

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#### ABSTRACT

Growing awareness of foodborne illnesses and food safety among students is a crucial first step. The delivery of education in schools naturally prioritizes protecting kids against foodborne illness. The present study was conducted to assess the existing knowledge regarding foodborne diseases and food safety among students. A quasi experimental one group pre-test and post-test design was conducted to assess the effectiveness of planned teaching program on knowledge regarding food borne diseases and food safety among students in selected schools of Sangli, Miraj, Kupwad corporation area” By using simple random sampling technique 70 samples were selected of age group 11 to 15 years for this study. A self-structured questionnaire was used to assess the level of knowledge among school students. Tool Reliability was measured by test-retest method. After the planned teaching program on the 7th day post-test was conducted. Analysis was done using frequency and percentage distribution and paired’ test. The overall level of knowledge at P-value is 0.00001 which is less than 0.05. This reveals the planned teaching programme on knowledge regarding food borne disease and food safety among students was effective.

**Keywords:** Effectiveness, Foodborne diseases, Food safety, Planned teaching programme, Students.

## INTRODUCTION

Foundational understanding of foods and nutrition in relation to health & disease/food Science & technology, food microbiology, and nursing for graduates, knowledge of this subject is crucial for all people. This is especially true for those planning to study medical sciences<sup>1</sup>. Food contamination results in food-borne illnesses, which can happen at any point in the chain of food production, delivery, and consumption. They may be the result of unsafe food processing and storage practices, environmental contamination in the form of soil, water, or air pollution, or a combination of these. Eating food tainted with germs, viruses, parasites, or chemicals like heavy metals can result in over 200 ailments. Through pressure on healthcare systems, lost productivity, and detrimental effects on trade and tourism, this growing public health issue has a significant socioeconomic impact. The worldwide burden of disease and mortality is considerably increased by these illnesses. From diarrhoea to cancer, food-borne diseases cover a wide variety of ailments. Although they can also cause neurological, gynecological, and immunological symptoms, they typically manifest as digestive problems. Diarrheal diseases are a serious issue in every nation on earth. According to the World Health Organization, a foodborne disease is an infection that is hazardous in nature and is brought on by substances that enter the body through food. Due to global urbanization, industrialization, and tourism, there is an increase in food-borne diseases<sup>2</sup>. WHO describes food handling, preparation, and storage in methods that avoid the spread of foodborne illness are all covered under the scientific field of safety. This entails severity of procedures that ought to be done. The possible health to prevent Serious health risks Food safety is a developing issue for global health that has an impact on people's wellbeing either directly or indirectly. The epidemiological reviews conducted as part of the continuing WHO study on the prevalence of food-borne diseases are highly troubling and have attracted the attention of numerous industry stakeholders in the food manufacturing and processing sectors<sup>3</sup>. The majority of cases have comparable signs and symptoms, and the disorder is characterized by a history of multiple people being attacked by a common food at the same time they ate it<sup>4</sup>. Foodborne sickness brought on by consuming food that has been contaminated by microbes or other agents. The majority of cases have comparable signs and symptoms, and the disorder is characterized by a history of multiple people being attacked by a common food at the same time they ate it<sup>5</sup>. To prevent potential health risks, a variety of practices should be followed. Food safety and food defense frequently work together in this way to protect customers from harm. Safety between industry and market, and between market and consumer, are the tracks within this school of thought. food safety, industry-to-market practices<sup>6</sup>

### NEED OF THE STUDY:

The bacteria, viruses, parasites, or chemicals that cause food-borne illnesses typically enter the body through contaminated food or water and are contagious or virulent. According to an estimate based on 2015 statistics, an estimated 600 million people worldwide (almost 1 in 10) get sick after eating contaminated food, and 420 000 die as a result. Foodborne or water-borne diarrhea alone accounts for around 2.2 million fatalities annually across the globe. A total of 2688 food-borne disease outbreaks, 153,745 illnesses, and 572 fatalities were reported to IDSP during the ten-year period from 2009 to 2018. A median of 269 outbreaks (range: 67–383), 15,375 illnesses (range: 5147–23,425), and 57 (range: 26–109) fatalities were recorded annually. With a peak of 3.2 in

2016, the average annual rate of food-borne disease outbreaks was 2.2 outbreaks per 10,000,000 people. In 2013 and 2016, there were the most reported cases of illness<sup>7</sup>. In 2011 alone, inflicting illness on 2066 persons (Health Ministry Saudi Arabia, 2013). The incorrect handling of food products at customers' homes is occasionally blamed for the occurrence of foodborne illnesses (Redmond & Griffith, 2003). Food can be handled improperly during preparation, handling, and/or storage (Knabel, 1995), and numerous studies have shown that consumers' lack of knowledge about proper food handling techniques is the reason why this happens (Alters et al., 1996; Knabel, 1995; Meer and Misner, 2000; Redmond and Griffith, 2003)<sup>8</sup>. Water pollution has become a cause of worry due to the contamination of underground water resources, excessive exploitation of water resources, and pollution of river water by industrial effluent and waste<sup>11</sup> aim of establishing the effectiveness of ginger tea in reducing the morning sickness.<sup>13</sup> Pineapple is used for medical purposes since decades and it also used as a digestive aid and a remedy for skin disorders<sup>14</sup>. India needs unique consideration when it comes to food safety because of its diversified socioeconomic background, extensive agricultural practices, storage procedures, and lifestyle practices, as well as its dynamic climatic circumstances and changing eating and lifestyle practices. They might struggle for basic needs such as food and clothes as a result of the loss of income, health service expenditures, and paid/unpaid work reduction, all of which are the greatest sources of economic burden in patients with breast cancer.<sup>12</sup>(PDF) [accessed Feb 05 2024]. According to the WHO, developing nations experience more than 1000 million episodes of severe diarrhea each year, with 3–4 million deaths. Almost 900000 cases of food-borne illnesses are reported annually, according to the Food Standard Agency (FSA). Over the past few years, our way of life has changed, with an increased reliance on ready-made meals, dining out rather than cooking, and more trips abroad. Because of our busy schedules, we all tend to spend less time planning and cooking meals. People frequently buy convenience foods that simply need to be micro-waved or prepare multiple meals in advance and freeze them for a long time. This is the cause of the current increase in occurrences of food poisoning. Understanding where your food comes from and the care and safety requirements that have been followed may assist to lower the occurrences of food related illnesses<sup>9</sup>.

Because of the rise of foodborne pathogens, microbial contamination of food is as significant public health concern. Globally, more than 250 sources of food borne illnesses have been found. Numerous studies show that food borne outbreaks are spreading more widely and have become more urgent, calling for public health interventions. Microbial infections annually cause millions of cases of foodborne illness, leading to numerous hospitalizations and fatalities. Many food quality regulations have been put in place in various countries of the rise in infectious diseases that are spread through food. Food borne infections lower human health productivity and significantly increase the cost of providing healthcare. However, a recent systematic review and meta-analysis found that there is a knowledge gap regarding awareness of microbial pathogens in food. Food safety initiatives often concentrate on physical inspection of the finished product and laboratory testing, while programmes to increase understanding of the factors that lead to foodborne illness have gotten less attention<sup>10</sup>

### **RESEARCH STATEMENT:**

“A study to assess the effectiveness of planned teaching program on knowledge regarding Foodborne diseases and Food safety among students in selected schools of Sangli, Miraj, Kupwad corporation area”

**OBJECTIVES:**

1. To assess the existing knowledge regarding foodborne diseases and food safety among students.
2. To assess the knowledge regarding foodborne diseases and food safety after planned teaching.
3. To compare pre-test knowledge scores with post-test knowledge score.

**Research Methodology**

A quasi experimental one group pre-test and post-test design was conducted to assess the effectiveness of planned teaching program on knowledge regarding food borne diseases and food safety among students in selected schools of Sangli, Miraj, Kupwad corporation area” By using simple random sampling technique 70 samples were selected of age group 11 to 15 years for this study. A self-structured questionnaire was used to assess the level of knowledge among school students. A researcher taught the students regarding food borne diseases and food safety by using charts and posters. After the planned teaching programe on the 7th day post-test was conducted. Analysis was done using frequency and percentage distribution and paired’ test

**Result** Pre-test level of knowledge regarding food borne diseases and food safety showed that overallpre-testmeanscorewas11. 21andS.D. was4.5169andthepost-test. Mean score was was 16.5 and S.D. was 4.9512. Significant difference is found between pre-testandposttestmeanscoreofknowledgeregardingfoodbornediseaseand food safety. The overall level of knowledge at P-value is 0.00001 which is less than 0.05. This reveals the planned teaching programme on knowledge regarding food borne disease and food safety among students was effective.

**TableNo.1: Frequency and percentage distribution of students according to demographic variables.**

n =70				
Sr.No	Demographic Variables		Frequency	Percentage
1	Age of Students	11-13years	23	33%
		13-15years	47	67%
2	Sex of Students	Male	39	56%
		Female	31	44%
3	Family Type	Nuclear	36	51%
		Joint	34	49%
4	Family Income (in Rs.)	5,000-10,000	18	26%
		10,000-15,000	17	24%
		15,000-20,000	19	27%
		Above20,000	16	23%

5	Place of living	Rural	27	39%
		Urban	43	61%
6	Previous education on food born disease and food safety	No	49	70%
		Yes	21	30%

### **RESULT:**

The study findings show that, out of 70 students, majority of the sample 47 (67%) were in the age group of 13-15 years. 39 (56%) of the sample were male and 31 (44%) sample were female. 36 (51%) samples belonged to nuclear family. 19 (27%) of the sample were having family income between Rs. 15,000-20,000, 43 (61%) of the students were from urban area. 49 (70%) students has no knowledge regarding food borne and food safety

**Table No. 2: Frequency percentage distribution of students according to pre-test level of knowledge regarding food borne diseases and food safety.**

**n =70**

Level of knowledge	Frequency	Percentage
(22to28) Excellent Knowledge	0	0%
(15to21) Good Knowledge	16	23%
(8to14) Average Knowledge	38	54%
(0to 7) Poor Knowledge	16	23%

**Result:** The table no. 2 shows that, most of the students 38 (54%) have average knowledge and 16 (23%) students having poor and good knowledge and none of student having excellent knowledge regarding food borne disease and safety.

**TableNo.3: Frequency and percentage distribution of students according to post-test level of knowledge regarding food borne diseases and food safety.**

**n=70**

Level of knowledge	Frequency	Percentage
(22to28) Excellent Knowledge	14	20%
(15to21) Good Knowledge	28	40%
(8to14) Average Knowledge	28	40%
(0to 7) Poor Knowledge	0	0%

**The table no. 3** shows that, majority of the students 28 (40%) has good and average knowledge and 14 (20%) have excellent knowledge regarding food borne disease and safety.

**Table No.4: Comparison between the pre-test and post-test knowledge score regarding food borne diseases and food safety among students.**

n=70

	Mean	S.D.	df	Paired t- test	p-value
<b>Pre-test</b>	11.21	4.5169	69	27.8257	0.00001 <0.05
<b>Post-test</b>	16.5	4.9512			

### **RESULT:**

The table no. 4 shows that, the mean score of knowledge before giving planned teaching programme was 11.21 and S.D. was 4.5169 and the mean score of knowledge after giving planned teaching programme was 16.5 and S.D. was 4.9512. The t – value is 27.8257 and as the calculated p – value is 0.00001 which is less than 0.05. This reveals the planned teaching programme on knowledge regarding food borne disease and food safety among students was effective.

It shows that highly significant difference is found between pre- test and post- test mean score of knowledge regarding food borne disease and food safety.

**Conclusion:** This study revealed that the planned teaching programme on knowledge regarding food borne diseases and food safety was an effective to increase the level of knowledge of school students.

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