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Evaluating the Efficacy of a Structured Teaching Program on Gastritis Prevention and Management Among Pre-University Students in Shivamogga, Karnataka: A Quasi-Experimental Study

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Abstract: ***Introduction: Gastric disorder is a common medical problem in India 5. The incidence of gastritis in India is approximately 3 in 869 people suffering from gastritis. Frequency of gastritis is decreasing in the developed world but increasing in developing countries. Gastritis is more common among the adolescents, but it can affect anyone at any age. A variety of mild to severe stomach symptoms may indicate gastritis. Gastrointestinal system is one of the systems of our body which deals with Diet - its intake, absorption, metabolism and elimination. Upper gastrointestinal inflammatory process is exceedingly common and has a wide spectrum of causes and manifestations. Hence the focus of this study was to evaluate the effectiveness of Planned teaching programme on prevention and management of gastritis among students at selected PU Colleges at Shivamogga. Methodology: A Pretest posttest with control group research design and evaluative approach was used in the study. The data was collected from 120 subjects, each 60 pre - university students in control group and 60 pre - university students in experimental group, selected through non - probability purposive sampling technique. Data was collected using structured questionnaire. Results: The overall analysis of level of knowledge of students regarding prevention and management of gastritis showed that in experimental group majority 55% of the subjects had moderate knowledge and 35% had inadequate knowledge in pre test, where as in post test 55% of subjects had adequate knowledge and 41.7% had moderate knowledge. In control group majority 58.3% of the subjects had moderate knowledge and 30% had inadequate knowledge in pre test, where as in post test 71.7% of subjects had moderate knowledge and 18.3% had adequate knowledge. The mean knowledge scores of the subjects at pre - test were 14.53 (55.88%) with standard deviation 3.529 found to be moderate knowledge regarding prevention and management of gastritis. After administration of Planned teaching programme mean knowledge scores of the subjects was 19.48 (74.92%) with standard deviation 3.327 found to be improvement in the level of knowledge among students in experimental group. In control group the pretest mean knowledge scores was found to be 14.97 (57.57%) with the standard deviation of 3.483 and the mean post test knowledge scores were 16.9 (65%) with standard deviation of 2.628 which shows the mild increase in the knowledge level of students regarding prevention and management of gastritis. Conclusion: Findings of the study show that there was a significant difference in pre test and post test level of knowledge of students in experimental group where as little increase in the knowledge scores of students in control group. From this it is concluded that the Planned teaching programme is effective in improving the level of knowledge of students. And there was a significant association between level of knowledge of students in experimental group and selected demographic variables such as age, educational status and Source of information.***

Keywords: Knowledge; students; prevention and management of gastritis, planned teaching programme; Experimental group; Control Group

1. Introduction

Nutrients from food are absorbed by the body as it passes through the digestive system. Disorders of gastro intestinal functions interfere with normal maintenance of health. Gastritis is the one of the most common gastro intestinal disorder. It is the inflammation of the gastric mucosa.[1]

Gastritis may occur suddenly (acute gastritis) or it can occur slowly over time (chronic gastritis). Gastritis also acts as symptoms of other diseases such as gastric cancer, peptic ulcer, hepatitis A and pernicious anemia. The main causes of gastritis are infections, alcohol use, use of caffeine products and beverages, stress, unhealthy lifestyles and unhealthy dietary management.[2]

World health organization estimates the incidence of gastritis about 1.8 to 2.1 million people in the world each year. H. pylori infection increased with age (P less than 0.01) and was greater than 80% among adolescents. H. pylori infection was present in 79% of the population studied; there was no gender - related difference in prevalence of H. pylori infection.[3]

Gastric disorder is a common medical problem in India. The incidence of gastritis in India is approximately 3 in 869 that is about 12, 25, 614 people suffering from gastritis out of the total 1, 06, 50, 70, 607 population. Frequency of gastritis is decreasing in the developed world but increasing in developing countries. Male - to - female ratio of gastritis is approximately 1: 1. Bacterial infection with Helicobacter pylori is a common cause of gastritis. About 35% of adults are infected with H. pylori, but the prevalence of H. pylori infection in minority groups and in immigrants is much higher. Children age 2 to 8 and adolescent age 12 - 17 in developing nations acquire the infection at a rate of 10% per year; the rate of yearly infection is less than 1%6. Nine out of 10 cases of gastritis is caused by bacterial invasion with H. pylori. The studies among adults conducted in Bangalore

have shown high prevalence of H. pylori (78%) and similar study conducted in Allahabad has shown a 77.2% of prevalence of H. pylori among adults aged 19 - 26 years.[4, 5]

Gastritis is more common among the adolescents, but it can affect anyone at any age. A variety of mild to severe stomach symptoms may indicate gastritis. Gastrointestinal system is one of the systems of our body which deals with Diet - its intake, absorption, metabolism and elimination. Upper gastrointestinal inflammatory process is exceedingly common and has a wide spectrum of causes and manifestations. Gastric disorders are common; unless treated promptly and completely, they can continue to cause problems throughout the person's life. Clients need assistance to learn modified eating habits in order to achieve and maintain health and to make necessary lifestyle changes.[5]

A study was conducted in Turkey with an aim to investigate the health problems of the recently enrolled new university students. The study was conducted on 640 students by the Students' Selection and Ranking Examination. Spearman correlation analyses was used for this study. The result revealed that42.7% of males and 57.3% of females were showing the positive prevalence for gastritis. The conclusion of the study emphasized the importance of health screening of enrolling students in the registration.[6]

Gastritis caused by Helicobacter pylori (H. pylori) and the risk factors like smoking, alcohol consumption, tobacco use, spicy food, drugs, stress, swallowed foreign bodies, and infections which leads to excessive inflammation, irritation of mucous membrane and excessive gastric secretion that rupture and inflame the stomach mucosal lining and affected person will get abdominal pain, indigestion, nausea, vomiting, diarrhoea, bad taste in the mouth, loss of appetite burning pain in epigastric region and other tract dysfunctions.[5]

Prevention is better than cure so its good that adolescents must have awareness regarding gastritis risk factors, causes, signs and symptoms and preventive measures of gastritis, even many studies had proven that adolescents have lack of knowledge regarding gastritis, so researcher felt that creating awareness about gastritis is very much needed.

2. Need for the study

Adolescence is the time of transition from childhood to adulthood. During this period lots of physical and psychological changes take place. As a result the blooming buds of future face a dilemma in their life. Moreover, this brings stress and tension. While majority of youngsters overcome their problems, others attempt lifestyle modification. The factors like peer group pressure and excess freedom give a gate to achieve lifestyle changes through alcoholism, smoking, tobacco, fast and spicy food which influence the occurrence of gastritis. Not choice but habit rules the unreflecting herd. " Habits are funny things which can affect one's life positively or negatively. Young people search for them unknowingly, which sticks on their life style. In the ever - changing 21st century, even the word habit" carries a negative connotation.[7]

Epidemiologic studies reflect the widespread incidence of gastritis. In the United States, it accounts for approximately 1.8 - 2.1 million visits to doctors offices each year. It is especially common in people older than 60 years.[8]

Incidence of gastritis is highest in the fifth and sixth decades of life and the rate is 3, 13, 000 new cases per year.17 An estimated 50% of the world population is infected with H pylori, an infection which leads to the greater majority of Gastritis cases, therefore, chronic gastritis is extremely frequent. H pylori infection is highly prevalent in Asia and in developing countries. The prevalence of H. pylori infection increases with advancing chronologic age due to a cohort effect. Prevalence rates are higher in developing nations and amongst children living in lower socioeconomic groups in developed countries. Previous reports of ethnic and genetic susceptibilities to H. pylori likely reflect insufficient consideration of the confounding effects of socioeconomic deprivation as an independent risk factor.[9]

In India the prevalence of peptic ulcer is quite high.4 to 10 per thousand populations suffers from peptic ulcer disease every year. Tamil Nadu, Karnataka, Andra Pradesh and Jammu & Kashmir are considered to be very high - risk area. In India 16% of the population undergo gastrectomy who are suffering from malignant growth of the stomach. According to a survey report on Peptic Ulcer Disease in South India the incidence of dumping syndrome accounts 10% - 20% of all the patients who has undergone gastric surgery for peptic ulcer disease.[10]

The prevalence of gastritis in India is increasing. Up to 10% of people, who come to a hospital emergency department with an abdominal pain, have gastritis. The sero - prevalence studies from Delhi, Hyderabad and Mumbai have shown that by ten years of age more than 50% and by 20 years more than 80% of population is infected with gastritis.[11]

A study from Bangalore has detected H. pylori infection in 82% of 50 children (6 - 19 years) by C urea breath test. There are two studies in adults, one from Karnataka and Allahabad which have shown a 77.2% and 78% prevalence of H. pylori in adults. All these studies have shown that H. pylori infection is very common in India and most of our pediatric population is infected.[12]

Youngsters without a proper knowledge regarding prevention and management of gastritis may develop complications. So the researcher felt the need to educate students on preventive and management aspects such as screening, modification of life styles, relaxation techniques, proper dietary management etc. From the above studies it's clear that we need to educate adolescents regarding food habits, avoiding junk foods, and adapting healthy life style, so researcher felt to take a research on a topic 'A quasi experimental study to assess the effectiveness of planned teaching programme on knowledge regarding prevention and management of gastritis, among students studying in selected pre - university colleges at Shivamogga, Karnataka'

Objectives of the study

1) To assess the existing level of knowledge regarding prevention and management of gastritis among students studying in pre - university colleges in experimental and control group.

2) To administer planned teaching programme to students in experimental group.
3) To compare pre and post assessment scores of knowledge regarding prevention and management of gastritis among students in experimental and control group.
4) To find out the association of pre and post assessment scores of knowledge regarding prevention and management of gastritis among students in experimental and control group with selected demographic variables

Hypotheses

H1: There will be significant difference between pre and post - test knowledge scores on prevention and management of gastritis among pre - university students in experimental group at 0.05 and 0.01 level of significance.

H2: There will be a significant association between the pre test and post test knowledge scores of students of pre university colleges in experimental group with their selected demographic variables.

H3: There will be a significant association between the pre test and post test knowledge scores of students of pre university colleges in control group with their selected demographic variables**.**

Assumptions of the study:

1) The Pre - University students may have some knowledge regarding prevention and management of gastritis.
2) Pre - university student's knowledge regarding prevention and management of gastritis can be improved by planned teaching program.
3) After attending the planned teaching program Pre - University students will improve the knowledge regarding prevention and management of gastritis.
4) Knowledge among the pre university students regarding prevention and management of gastritis is measurable.

Conceptual Framework:

The modified conceptual frame work for the study is based on Imogene Kings Goal Attainment theory. The present study is aimed at evaluating the effectiveness of planned teaching programme on knowledge of students towards prevention and management of gastritis. This conceptual framework focuses on inter - personal relationship, communication between investigator and students.

3. Material and Methods

A Pretest posttest with control group research design and evaluative approach was used in the study

Phase – I:

In this phase, pre - test was conducted on a total of 120 students, each 60 students in control group and 60 students in experimental group by a structured method of gathering self - reported information from respondents through self - administration of the questionnaire

Phase – II:

In this phase, a PTP regarding s prevention and management of gastritis was conducted to the subjects and explained to them. All the questions or queries were clarified which were asked by the subjects.

Phase III:

In this phase, post test was conducted on 7th day after administration of the PTP; the same structured method of gathering self - reported information from respondents through self - administration of the questionnaire

Inclusive criteria:

The study includes the students who are

- Who are studying in pre - university colleges.
- Who are willing to participate in the study.
- Who are present during the time of data collection.
- Those who are able to read and write Kannada or English.

Exclusion Criteria

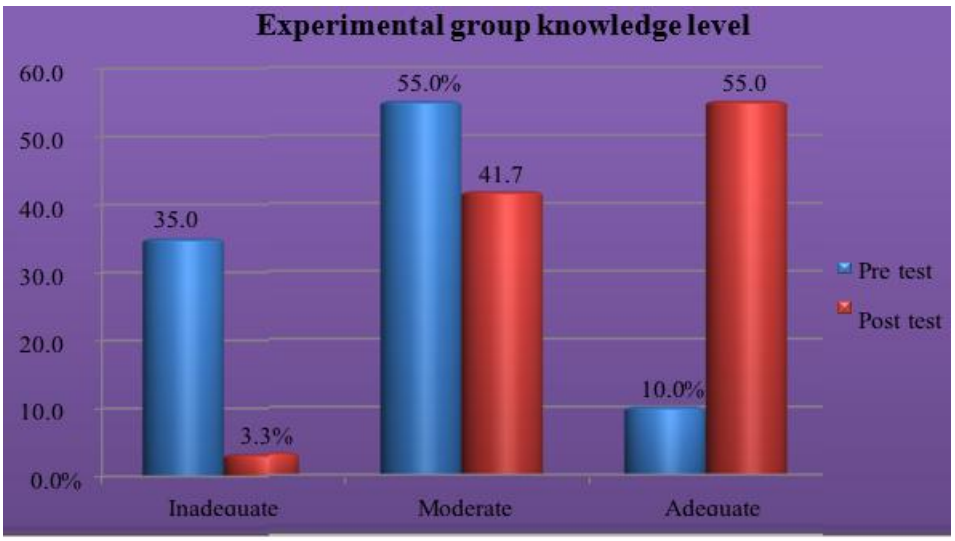
- Students who are sick during period of study.

Data Collection Instrument

Section A - It consists of socio demographic profile

Section B - It consists of structured knowledge questionnaire

Pre test and post test knowledge level of students in experimental group.



The above graph depicts that in experimental group majority 55% of the subjects had moderate knowledge and 35% had inadequate knowledge in pretest, where as in posttest 55% of subjects had adequate knowledge and 41.7% had moderate knowledge.

Mean, median and standard deviation of pre - test and post - test Knowledge scores of experimental group students

Knowledge aspects	No. of Items	Max Score	Pre test			Post test		
			Mean	Mean (%)	SD	Mean	Mean (%)	SD
General information on gastritis	10	10	5.27	52.7	1.471	7.15	71.5	1.614
Treatment and management of gastritis	10	10	6.1	61	1.684	7.93	79.3	1.517
Complication and prevention	6	6	3.17	52.83	1.137	4.4	73.33	0.96
Overall Knowledge	26	26	14.53	55.88	3.529	19.48	74.92	3.327

Mean, median and standard deviation of pre test and post test knowledge scores of control group students

Knowledge aspects	No. of Items	Max Score	Pre test			Post test		
			Mean	Mean (%)	SD	Mean	Mean (%)	SD
General information on gastritis	10	10	5.48	54.8	1.479	6.12	61.2	1.367
Treatment and management of gastritis	10	10	6.3	63.0	1.670	7.2	72.0	1.246
Complication and prevention	6	6	3.18	53.0	1.127	3.58	59.66	1.211
Overall Knowledge	26	26	14.97	57.57	3.483	16.9	65.0	2.628

Association of Post Test Knowledge Scores of Experimental Group with Demographic Variables N = 60

Variables	Below Median	Median and above	Chi square	Df	P value (0.05)	Inference
1. Age in years						
a.17 years	17	8	10.545	2	0.005	S
b.18 years	4	16				
c.19 years	6	9				
2. Gender						
a. Male	16	20	0.011	1	0.916	NS
b. Female	11	13				
3. Religion						
a. Hindu	16	24	3.030	2	0.220	NS
b. Muslim	7	3				
c. Christian	4	6				
4. Educational status						
a. I PUC	15	13	1.558	1	0.212	NS
b. II PUC	12	20				
5. Family Income						
a. Less than Rs.1, 00, 000	5	4	8.736	3	0.033	S
b. Rs.1, 00, 001 - 2, 00, 000	7	21				
c. Rs.2, 00, 001 - 5, 00, 000	11	6				
d. More than Rs.5, 00, 001	4	2				
6. Place of residence						
a. Urban	15	19	0.025	1	0.875	NS
b. Rural	12	14				
7. Dietary Pattern						
a. Vegetarian	14	5	11.347	2	0.003	S
b. Non - Vegetarian	5	18				
c. Mixed	8	10				
8. Habits						
a. Consumption of alcohol	2	3	3.371	3	0.338	NS
b. Consumption of pan	6	14				
c. Smoking	5	3				
d. No Habits	14	13				
9. Source of information						
a. Mass media	5	4	0.770	3	0.857	NS
b. Medical experts	4	5				
c. Friends/relatives	9	14				
d. Family members	9	10				

The above table shows X^2 value computed between the knowledge level of students and selected demographic variables in experimental group. Variables such as age, family income and dietary pattern were significant at 0.05 level of significance. Thus it is inferred that there is a significant association between the knowledge of students regarding prevention and management of gastritis and selected demographic variables. Hence the hypothesis stated there will be a significant association between the post test knowledge scores of students of pre university colleges in experimental group with their selected demographic variables is accepted.

4. Major Findings of the Study

Findings related to demographic variables

In the study the distributions of the samples by age revealed that Majority students (41.7%) belongs to 17 years of age in experimental group and whereas most of students (41.7%) belongs to age groups to 18 years in control group. Majority students (60%) in experimental group and the 55% of the subjects in control group were males. Majority 66.7% of students in experimental group and 71.7% in control group belongs to Hindu religion. Majority 53.3% of students in experimental group were studying in II PUC whereas 50% of students in control group were studying in I PUC. Among participants majority 46.7% students in experimental group and 45% in control group had income between Rs.100001 to 200000. Among the students majority 56.7% of students in experimental group and 65% in control group were living in urban areas. In regard to diet majority 38.3% of students in experimental group and 41.7% in control group were non vegetarians. Among the subjects majority 45% of students in experimental group and 36.7% in control group had no habits where as 33.3% students in experimental group and 40% in control group had the habit of consumption of pan. Among the participants majority 38.3% of students in experimental group and 33.3% in control group had information from Family members/Friends.

Findings related to knowledge scores of the students regarding prevention and management of gastritis.

The study reveals that 35% of the students had inadequate knowledge and 55% had moderate knowledge and 10% of them had adequate knowledge in the pretest. After administration of the planned teaching programme 55% of the subjects had adequate knowledge, 41.7% had moderate knowledge regarding prevention and management of gastritis in the post test in experimental group.

The overall mean pre test knowledge score obtained by the students was 14.53 (55.88%) with standard deviation 3.529. The overall post test mean knowledge score obtained by the students was 19.48 (74.92%) with standard deviation 3.327.

In control group majority 58.3% of the subjects had moderate knowledge and 30% had inadequate knowledge in pre test, where as in post test 71.7% of subjects had moderate knowledge and 18.3% had adequate knowledge

The overall mean pre test knowledge score obtained by the subjects was 14.97 (57.57%) with the standard deviation of 3.483 indicates moderate knowledge. The overall mean post test knowledge score was 16.9 (65%) with standard deviation of 2.628 reveals the mild increase in the knowledge in the control group.

Findings related comparison of the pre - test and post - test knowledge score of students

H1: There will be significant difference between pre and post - test knowledge scores on prevention and management of gastritis among pre university students in experimental group at 0.05 and 0.01 level of significance.

The overall pretest mean knowledge score obtained by the students was 14.53 (55.88%) with standard deviation 3.529 and the overall post test mean knowledge score obtained by the students was 19.48 (74.92%) with standard deviation 3.327.

The total difference in the mean of overall knowledge score was 4.95 with the 't' value of 10.791 and found to be significant at the level of $p<0.01$. It means there is significant difference between pre test and post test level of knowledge of students regarding prevention and management of gastritis. Hence the Hypothesis H1 is accepted. Findings related to association between knowledge level of students and selected demographic variable. H2: There will be a significant association between the knowledge scores of students of pre university colleges with their selected demographic variables

Findings revealed that there was a statistically significant association between the post test knowledge score with demographic variables such as age, family income and dietary pattern at the probability level of $p<0.05$. Hence the research hypothesis H2 stated that there will be significant association between the post test knowledge score of the students with selected demographic variable was accepted.

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Conflict of Interest

Researcher does not have any Conflict of Interest

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