Effectiveness of Self-Instructional Module on Knowledge Regarding Prevention and Management of Gastritis Among Adolescents

Sakarwade P¹, Waghmare P², Wankhede A², Wankhede P², Vidhvaskar D², Satpute U²

¹Assistant Professor, Child Health Nursing Department, Smt. Radhikabai Meghe Memorial College of Nursing, DMIMS(DU) Sawangi (Meghe), Wardha, Maharashtra, India; ²Post basic B.Sc. Nursing, Smt. Radhikabai Meghe Memorial College of Nursing, DMIMS(DU) Sawangi (Meghe), Wardha, Maharashtra, India.

ABSTRACT

Introduction: Gastric problems can also impair psychological development and negatively influence the environment and leisure time. The self-instructional module on prevention of gastritis among adolescence helps to improve and update the knowledge regarding healthy lifestyle practices.

Objective: To evaluate the effectiveness of the self-learning module on knowledge regarding prevention and management of gastritis among adolescents.

Methods: Non-convenience sampling technique was used to collect data from teenagers by providing structure multiple-choice questionnaires. The self-learning module was arranged for the involvement of gastritis in samples. Seven days were provided to the samples for utilising self-learning module which was organised for 45-50 minutes through self-learning, discussion and planned Audio-Visual (AV) aids. Post-test information was gathered after seven days from the day of the learning intervention. Seven days was assigned after getting expert opinions as well as to give time for the implication of knowledge through the practice of prevention and management of gastritis. Chi-square test was also used to find out the association between knowledge of adolescents regarding the prevention and management of gastritis and selected demographic variables.

Results: The mean pre-test knowledge score was 8.32 and mean post-test knowledge score was 21.90. There was a statistically significant improvement in the level of knowledge regarding prevention and management of gastritis among adolescents (t=0.001, 99=1.98). There was a significant association of knowledge score concerning the education of adolescent and education of father. There was no significant association of knowledge score concerning age, gender, education of mother and area of residence.

Conclusion: The post-test knowledge score improved than the pre-test knowledge score. So the self-instructional module has proved to improve adolescents knowledge regarding prevention of gastritis.

Key Words: Teenagers, Efficacy, Self-learning module, Gastritis, Prevention and management

INTRODUCTION

Gastritis is the most common upper GI disorder seen in the patient population. Timely diagnosis by upper GI endoscopy with patient education and risk factor management is essential to control upper GI disorders in this community.¹ Gastritis is prevalent in teens, but it may impact someone at any age. Gastritis may be characterized by a range of moderate to extreme stomach symptoms. The gastrointestinal system is one of our body’s systems that deal with ingestion, absorption, metabolism and removal of diets. The upper inflammatory gastrointestinal process is extremely normal and has a wide variety of causes and manifestations.¹ Upper gastrointestinal bowel movements are normal and have a wide variety of causes and manifestations. If treated appropriately and comprehensively, gastric disorders are normal, they will continue to cause problems during teenage life. Adolescents need helping to know a new eating habit to achieve, and preserving health, and making it necessary lifestyle modifications. This is a very important and difficult task; however, unless an adolescent modifies behaviour, many of the gastric disorders recur. The main nursing activity is directed towards

Corresponding Author:
Sakarwade P., Assistant Professor, Child Health Nursing Department, Smt. Radhikabai Meghe Memorial College of Nursing, DMIMS(DU) Sawangi (Meghe), Wardha, Maharashtra, India; Email: prerananmadhura@gmail.com

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education, and modifications of the adolescent’s behaviour to grant a healthy lifestyle pattern.\textsuperscript{2}

The occurrence of gastritis in India is roughly three in 869, which there are around 12, 25,614 individuals with gastritis out of the total population. of 1,06,50,70,607.\textsuperscript{3} In the developed world, gastritis prevalence is declining but is rising in developed nations. The masculine-to-female gastritis ratio is around 1:1. Helicobacter pylori bacterial infection is a specific source of gastritis infection. Approximately 35 per cent of adults get H. Pylori, however predominance H. Pylori infection is substantially higher in ethnic communities and immigrants. Kids 2 to 8 years and adolescent ages 12-17 grow infection at a pace of 10% a year. in developed countries; global infection rates are less than 1%. Nine out of 10 cases of gastritis are caused by the invasion of H by bacteria. Pylori. Hey.\textsuperscript{4}

The predominance of H. Pylori is as high as 80 per cent or more in rural areas in the Indian subcontinent. H representation which is most widely recognized. In India, pylori infection is peptic ulcer disease, particularly duodenal ulcer disease, which exceeds 8:1 to 30:1 gastric ulcers.\textsuperscript{5} H. Pylori gastritis has become more evident in patients with gastroesophageal reflux. H. Pylori-induced gastritis of the gastric body is associated with decreased development of acid, and thus with decreased reflux and esophagitis.\textsuperscript{6} Environmental factors, particularly diet, play a role in gastritis pattern and this probably underlies the differences in H prevalence. In India, the pylori diseases, tropical diets with plentiful fruits and vegetables year-round encourage non-atrophic gastritis and duodenal ulcer disease prevalent in the antral.\textsuperscript{7} The lifestyle factors and stress contributed to the rise of peptic ulcer among adolescents.\textsuperscript{7}

It is estimated that around 1,225,614 Indians have gastritis and stands the fourth position among the southern Asia countries as per the current statistics. Therefore, the adolescents must have thorough knowledge about gastritis to prevent the progression of gastritis first of all among themselves and also educate the society to prevent the development and progression of gastritis. This research was performed among adolescents with main perspective determining their knowledge regarding gastritis and put into service any implementation programme.\textsuperscript{8}

### MATERIALS AND METHODS

A pre-experimental pre-test, the post-test research design was used in this interventional study. The study was conducted during December 2019 and the setting was selected in the Baburao Bangde Vidyalya, Pawnar after getting ethical permission Ethical clearance letter (IEC letter no. Ref. no: SRMMCON 2019-20/436). The sample size was calculated to include 100 respondents.

Adolescents were informed and explained the objective of the study. The written informed consent was duly signed individually. Inclusion criteria were: (i) Adolescents willing to take part in the sample and (ii) Adolescents between the 14-18 age groups. Teenagers who already attended the class on gastritis were excluded from the study.

Demographic variables were collected in terms of age, gender, residence, education, father and mother status. A structured questionnaire, Annexure 1 with 25 multiple choice questions was used. The sections were - (i) meaning, causes and risk factors of gastritis; (ii) clinical manifestations and diagnostic test on gastritis; and (iii) prevention and management of gastritis. Each correct answer gets one mark and the total score was 25. The tool was validated by five experts from the nursing department, Split half method was adopted for reliability testing and it was found as r=0.86. The data collection process was planned to gather demographic information and knowledge on gastritis.

The self-instructional module as organized on (i) meaning and causes and risk factors of gastritis with images; (ii) sign and symptoms and diagnosis of gastritis; and (iii) prevention and management of gastritis. There were two sessions conducted for education in two groups, each session had 50 adolescents in each group in 45 minutes The session conducted by the researcher. Each sample needed a 30-minute time to complete the pre-test structured questionnaire. Then the self-instructional module has intervened the sample. After 7 days post-test was administered.

### Statistical Analysis

The demographic data, collected in the pre-test stage, an analysis was done in terms of frequency and percentage. The paired t-test was used to assess levels of information pre-and post-test. Chi-square test was used to determine the relationship between the selected variable and pre-test knowledge score. For statistical analysis, SPSS version 16.0 was used.

### RESULTS

The study revealed that percentage-wise distribution of adolescents with regards to their demographic characteristics. A convenient sample of 100 subjects was drawn from the study population, who were from the selected school of Wardha. According to the percentage of sample characteristics including age, gender, and education, educational status of father and mother and area of residence respectively. The demographic variables of samples are depicted in the Table 1 which shows that the maximum (i.e. 35%) of adolescents belonged to 15 years of age group23% of the adolescents were 13 years of age, each 21% of them were 14 and 16 years. Percentage-wise distribution of adolescents according to their gender 55% of the adolescents were males and 45% of them.
were females. Percentage-wise distribution of adolescents according to their education 26% of the adolescents was studying in 8th standard, 53% in 9th standard and 21% of them were studying in 10th standard. Percentage-wise distribution of adolescents according to the education of father 40% fathers of adolescents was educated up to primary standard, 33% up to secondary, 20% up to higher secondary and 7% of them were graduate and above. Percentage-wise distribution of adolescents according to the education of mother 31% of mothers of adolescents was educated up to the primary, 45% up to secondary, 15% up to higher secondary and 9% of them were graduate and above. Percentage-wise distribution of adolescents according to an area of residence 43% of the adolescents were residing in the urban area and 57% of them were residing in rural.

The table 2 shows that in pre-test majority (49%) had an average level of pre-test knowledge score. Minimum knowledge score in pre-test was 2 and maximum knowledge score in pre-test was 15. Mean knowledge score in pre-test was 8.32±3.27 and mean percentage of knowledge score in pre-test was 33.28±13.08. In the post-test majority (82%) of them had an excellent level of post-test knowledge score. Minimum knowledge score in post-test was 18 and maximum knowledge level in post-test was 25. Mean knowledge level in post-test were 21.90±1.59 and mean percentage of knowledge score in post-test were 87.60±6.36 (Table 3).

Table 4 reveals the comparison of pre-test and post-test knowledge range of adolescents according to their education. Mean, standard deviation and mean difference values are compared and paired ‘t’ test is applied at 5% level of significance. Self-learning module on information about gastritis prevention and management among adolescents was effective.

There was a significant association of knowledge score concerning the education of adolescent and education of father. There was no significant association of knowledge score concerning age, gender, education of mother and area of residence.

**DISCUSSION**

The study was conducted to assess the effectiveness of the self-learning module about gastritis. It intends to promote adolescents knowledge of gastritis about prevention and management. The mean post-test score 21.90±1.59 was increased than the mean value in pre-test 8.32±3.27 those scores show the self-learning module was effective. By using paired ‘t’ test the degree of significance at the computed ‘t’ value \( p<0.001 \) significance difference between two tests was evaluated suggested that the Self-training module on information about gastritis prevention and management among adolescents was effective.

A similar study on the effectiveness of structure teaching program on awareness of risk factors and prevention of middle-aged peptic ulcer in the Cheyyar taluka cooperative sugar mill. Quasi-experimental, one group pre-test post-test research design used. Around 66 per cent, information score was insufficient and about 34.0 per cent reasonably acceptable before the framework teaching program. The level of information among 89 per cent was adequate and after the structure teaching program, it was moderately adequate in 11 per cent. The mean awareness in the pre-test about risk factors and the prevention of peptic ulcer was 13.75 and 26.20 respectively in the post-test. The revealed teaching structure system is effective in improving awareness about associate factors and preventive measures of peptic ulcer. This is a positive correlation between awareness and variable demographic employment, industrial worker family income at the point \( P<0.05 \). A similar observation was made by the present study.

A descriptive survey in a 17-25 year age group of 100 distant learners showed that the most learners (60%) had medium/average scores of information other that most subjects (88 per cent) received a lower prevalence level for gastritis. They concluded that knowledge and risk factors are inversely proportionate and distribute a pamphlet on gastritis to the learner, this can help learners to acquire basic awareness of gastritis. The students must upgrade their knowledge as they are the future nurses who will be giving bedside care and also educating the clients.

**CONCLUSION**

Gastritis continues to be a global health problem that presents major challenges to our health care systems. Chronic gastritis is one of the most common life-long, serious and insidious illnesses in human beings. Upper gastrointestinal disorders are commonly seen in routine clinical practice. Delay in their diagnosis and treatment may lead to fatal complication like cancer. The reviewed gastritis literature expresses a dire need for more public education and awareness of gastritis. The study was effective because the post-test knowledge score was maximum than the pre-test knowledge score. So the self-instructional module is proved to be improving adolescent’s knowledge regarding prevention of gastritis.

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### Table 1: Percentage-wise distribution of adolescent according to their demographic variables n =100

| Demographic Variables          | No. of Adolescents |
|-------------------------------|--------------------|
| **Age**                      |                    |
| 13 years                     | 23                 |
| 14 years                     | 21                 |
| 15 years                     | 35                 |
| 16 years                     | 21                 |
| **Gender**                   |                    |
| Male                         | 55                 |
| Female                       | 45                 |
| **Education**                |                    |
| 8th std                      | 26                 |
| 9th std                      | 53                 |
| 10th std                     | 21                 |
| **Education of father**      |                    |
| Primary                      | 40                 |
| Secondary                    | 33                 |
| Higher Secondary             | 20                 |
| Degree and above             | 7                  |
| **Education of mother**      |                    |
| Primary                      | 31                 |
| Secondary                    | 45                 |
| Higher Secondary             | 15                 |
| Degree and above             | 9                  |
| **Resident**                 |                    |
| Rural                        | 57                 |
| Urban                        | 43                 |
### Table 2: Assessment of pre-test and post-test knowledge regarding prevention and management of gastritis. n=100

| Level of knowledge | Score Range | Pre-test Knowledge Score | Post-test Knowledge Score |
|--------------------|-------------|--------------------------|---------------------------|
|                    | No of adolescents | Percentage | No of adolescents | Percentage |
| Poor               | 0-20% (1-5)     | 24          | 24             | 0            | 0           |
| Average            | 21-40% (6-10)   | 49          | 49             | 0            | 0           |
| Good               | 41-60% (11-15)  | 27          | 27             | 0            | 0           |
| Very Good          | 61-80% (16-20)  | 0           | 0              | 18           | 18          |
| Excellent          | 81-100% (21-25) | 0           | 0              | 82           | 82          |
| Minimum score      | 2             |             |                | 18           |             |
| Maximum score      | 15            |             |                | 25           |             |
| Mean knowledge score |           | 8.32±3.27 | 21.90±1.59     |
| Mean % Knowledge Score |        | 33.28±13.08 | 87.60±6.36 |

### Table 3: Significance of difference between knowledge score in pre-test and post-test of adolescents. n=100

| Overall       | Mean | SD  | Mean Difference | t-value | p-value |
|---------------|------|-----|-----------------|---------|---------|
| Pre Test      | 8.32 | 3.27| 13.58±3.92      | 40.04   | 0.0001  |
| Post Test     | 21.90| 1.59|                 |         |         |

### Table 4: Association of post-test knowledge score regarding prevention and management of gastritis of knowledge score against demographic variables: n= 100

| Demographic Variables | No. of adolescents | Mean post-test knowledge score | Fvalue/t-value | p-value |
|-----------------------|--------------------|--------------------------------|----------------|---------|
| **Age in years**      |                    |                                |                |         |
| 13 yrs                | 23                 | 21.91±1.83                     |                | 0.15    |
| 14 yrs                | 21                 | 21.85±1.52                     |                | NS,p>0.05 |
| 15 yrs                | 35                 | 22.28±1.34                     | 1.77           | NS,p>0.05 |
| 16 yrs                | 21                 | 21.28±1.67                     |                |         |
| **Gender**            |                    |                                |                |         |
| Male                  | 55                 | 21.85±1.64                     | 0.31           | 0.75    |
| Female                | 45                 | 21.95±1.53                     |                | NS,p>0.05 |
| **Education**         |                    |                                |                |         |
| 8th std               | 26                 | 21.50±1.83                     |                | 0.017   |
| 9th std               | 53                 | 22.32±1.28                     | 4.26           | S,p<0.05 |
| 10th std              | 21                 | 21.33±1.74                     |                |         |
| **Education of father** |                    |                                |                |         |
| Primary               | 40                 | 21.90±1.49                     |                | 0.047   |
| Secondary             | 33                 | 22.24±1.50                     | 2.74           | S,p<0.05 |
| Higher Secondary      | 20                 | 21.10±1.71                     |                |         |
| Degree and above      | 7                  | 22.57±1.61                     |                |         |
| **Education of mother** |                    |                                |                |         |
| Primary               | 31                 | 21.64±1.60                     |                | 0.22    |
| Secondary             | 45                 | 22.24±1.43                     | 1.48           | NS,p>0.05 |
| Higher Secondary      | 15                 | 21.40±1.99                     |                |         |
| Degree and above      | 9                  | 21.88±1.45                     |                |         |
| **Area of residence** |                    |                                |                |         |
| Rural                 | 57                 | 21.75±1.53                     | 1.05           | 0.29    |
| Urban                 | 43                 | 22.09±1.65                     |                | NS,p>0.05 |