Effectiveness of structured teaching programme on knowledge regarding the management and prevention of complications of Gastro-Esophageal Reflux disease among patients with GERD

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**ABSTRACT**
Gastro esophageal reflux disease (GERD) is one of the common gastrointestinal complaints presented in developing and developed countries. Barrett’s esophagus and esophageal adenocarcinoma are the major complications of GERD. A Quantitative research approach, pre-experimental one group pre-test post-test design was used to conduct the study to assess the effectiveness of structured teaching programme on knowledge regarding the management and prevention of complications of Gastro esophageal reflux disease (GERD) among patients with GERD. A total of 60 Samples were selected by non-probability purposive sampling technique. A pretest was done using a semi-structured questionnaire, followed by which, a structured teaching programme was provided. A post-test using a same semi-structured questionnaire was given to the same samples. Before STP, 76.7% of the subjects had an inadequate level of knowledge score, and none of them had an adequate level of knowledge score. But after the pedagogical way of effective STP, none of the patients had an inadequate level of knowledge score, 16.7% of them had moderate and 83.3% of them had an adequate level of knowledge score. Elder and graduated subjects were significantly associated with their post-test level of knowledge score regarding management and prevention of complications of GERD. The study proved that STP was immensely effective for the patients with GERD (c²=58.00 at P=0.001 level of significance) attending the Gastroenterology outpatient department at RGGGH, Chennai.

**INTRODUCTION**
Gastro esophageal reflux disease (GERD) is not usually life-threatening, it can result in complications, like Barrett’s esophagus, a pre-cancerous condition, and esophageal carcinoma, which seems to be associated with an increased mortality rate. The incidence of Barrett’s esophagus followed by esophageal adenocarcinoma in the developing countries has increased by approximately 300% to 500% in the last 40 years (Chait, 2010).

The International Foundation for Functional Gastrointestinal Disorders, in their 15th GERD awareness week declared that GERD affects one in 5 people. GERD has its prevalence worldwide (>25%), approximately seven million people in the United States, 4.5/1000 in the United Kingdom and 2.7% in Italy. In addition, the prevalence of GERD in India is 7.6%. Compared to North India (23.6%), 22.2% of south Indians equally have GERD. Further-
more, Gastroenterological Outpatient department of RGGGH, Chennai diagnoses 10 new cases of GERD every day (Shaheen, 2005).

Wang et al. (2016), led an examination on the commonsness and hazard variables of GERD in an overall public of southern India. A meeting based observational examination was done in southern India during 2010 and mid 2011 utilizing a GERD survey. Altogether 1072 members was selected utilizing a multi-arrange group examining technique. It came about that the commonsness of GERD was 22.2 % (238/1072) in southern India, and was increasingly normal among more seasoned subjects and men (Kulkarni et al., 2013).

Overweight and corpulent subjects had a portion subordinate expanded danger of GERD, contrasted with those with weight list under 25. Individuals living in an urban network were more helpless against GERD than those in country. Likewise, those with a lower instructive level seemed to have an expanded danger of GERD. Rubenstein and Chen (2014), led an examination on "The study of disease transmission of Gastro esophageal Reflux Disease". The commonsness of gastro esophageal reflux malady (GERD) manifestations expanded roughly half until the mid-1990s when it leveled. The frequency of difficulties identified with GERD including hospitalized, esophageal strictures, esophageal adenocarcinoma, and mortality likewise expanded during that timeframe. GERD is liable for the best immediate expenses in the United States of any gastrointestinal infection, and the greater part of those uses are for pharmacotherapy. Hazard factors for GERD incorporate weight, horrible eating routine and absence of physical action, utilization of tobacco and liquor, and respiratory ailments (Franceschi et al., 2018; Kumar and Shivalli, 2014; Wang et al., 2016; Rubenstein and Chen, 2014).

Also, an investigation led in Apollo medical clinics, Chennai, Tamil Nadu to assess the discoveries and utility of esophageal travel scintigraphy (ETS) and gastro esophageal reflux scintigraphy (GES) in patients giving upper respiratory tract (URT) indications suspected to be expected to gastro esophageal reflux infection. Thirty patients matured somewhere in the range of 19 and 60 years experienced nasopharyngolaryngoscopy (NPL), ETS, and GES. Connection between GERD, esophageal motility, and NPL was assessed. Consideration criteria incorporate patients with intermittent URT manifestations, for example, constant dry hack/dryness of voice and tingling/outside body sensation in the throat. A noteworthy connection was found among GER and NPL in 28/30 patients. The occurrence of esophageal motility issue was measurably noteworthy in patients with GERD (Amalachandran et al., 2018).

Luk and Chiu (2018), led an investigation on Surgical Treatment for Gastro esophageal Reflux Disease (GERD) in Asia. The frequency of gastro esophageal reflux illness (GERD) is expanding in Asia. Most of the patients are treated by long haul utilization of proton siphon inhibitors (PPI). Against reflux medical procedure had been considered as an equal alternative to long haul PPI. Notwithstanding, barely any examinations have explored the presentation of against reflux medical procedure for the treatment of GERD in Asia. Rena Yadlapati et al. (2018) directed an investigation on "The Reflux Improvement and Monitoring (TRIM) Program Is Associated with Symptom Improvement and Weight Reduction for Patients with Obesity and Gastro esophageal Reflux Disease". Current social insurance frameworks don't adequately advance weight decrease in patients with heftiness and GERD. TRIM program gives customized, multidisciplinary, well-being instruction and observing more than a half year. This forthcoming blended strategies achievability study was performed at a solitary community between September 2015 and February 2017, and included grown-up patients with GERD and a weight file >= 30 kg/m^2, i.e Quantitative examination and subjective investigation. Right now achievability studies, support in TRIM was related with manifestation improvement, weight decrease, and patient commitment (Luk and Chiu, 2018; Yadlapati et al., 2018).

A comparative study on "Diet and gastro esophageal reflux disease: role in pathogenesis and management". The study revealed that increased awareness of medications side effects and its widespread overuse globally has brought non-pharmacological management as a forefront therapy for GERD. It has scientific evidence of decreasing the GERD symptoms when the population do not consume the triggering foods. The importance of lifestyle techniques such a head end elevation and consuming less meal before bed time may provide non pharmacological methods for effective symptom control in GERD. Hence, the focus of this study is assess the effectiveness of structured teaching programme on knowledge regarding the Management and Prevention of complications of Gastro esophageal reflux disease (GERD) among patients with GERD attending gastroenterology outpatient department at Rajiv Gandhi Government General Hospital, Chennai-3 (Sethi and Richter, 2017).
MATERIALS AND METHODS

A quantitative research approach with Pre-experimental one group pre-test post-test design through Non-Probability purposive sampling technique was used to conduct the study from 60 samples who met the inclusion criteria in Gastroenterology Outpatient department at Rajiv Gandhi Government General Hospital, Chennai – 3. The inclusion criterions were the patients attending Gastroenterology Outpatient department for the first time with the signs and symptoms of GERD, The patients who were willing to participate in the study, The patients who can read, write or speak Tamil/English, Able to participate in the informed consent process and Patients who can follow the instructions. The investigator conducted the study after obtaining formal permission from the Principal, College of Nursing, Institutional Ethical committee and the Director of Medical Gastroenterology, Madras Medical College and RGGGH, Chennai-3. A pre-test was conducted, the investigator gave an introduction and a structured teaching programme for 30 – 45 minutes by using PowerPoint presentation. Slideshows were shown during their breaks. Booklets and calendars were provided as take-home messages including do’s & don’ts. Post-test was conducted by the investigator after 7 days of pre-test using the same semi-structured questionnaire. The study was summarized using mean and standard deviation. Statistical significance was calculated by using student’s paired ‘t’ test. Level of knowledge gain between pre-test and post-test was calculated using Generalized McNemar’s chi-square test. The association between post-test level of knowledge and their demographic variables was calculated using Pearson chi-square test.

REPORT AND DISCUSSION

Pre-test conducted using semi-structured questionnaire before giving structured teaching plan reveals that the samples had maximum knowledge in prevention (45.43%) and minimum knowledge in signs and symptoms and Investigations (36.60%). It means that subjects were not enough in knowledge to identify the disease on their own, therefore education was an essential one for these subjects. In general 46 subjects (76.7%) were inadequate in knowledge and 14 subjects (23.3%) were moderate in knowledge and none of them were adequate in knowledge regarding management and prevention of complications of GERD. The above findings summarize that more than three-fourths of the samples had an inadequate level of knowledge and requires education. This objective of investigator’s study is consistent with the study of, who focused only on the assessment of the Knowledge of GERD among the Saudi Population of Altaif City. Among those subjects, nearly half of the subjects were poor in knowledge and recommended for providing health information concerning GERD. (Figure 1 and Table 1) (Jeong et al., 2017).

Post-test was conducted using semi-structured questionnaire after giving structured teaching plan. 86.25% of samples had maximum knowledge score in management and complications and 77.80% of samples had minimum knowledge score in Signs and symptoms and Investigations. Among 60 samples, in general none of the subjects were inadequate in knowledge, 10 subjects (16.7%) were moderate in knowledge and 50 (83.3%) of them were adequate in knowledge regarding management and prevention of complications of GERD.

On comparison of pre-test and post-test overall knowledge score, the obtained “t” value (22.52) was significant at 0.001 level with the degree of freedom 59. This indicates that there was a significant difference between pre-test and post-test level of knowledge scores among subjects with GERD regarding management and prevention of complications of GERD. Hence H1 was accepted. A similar prior study was conducted by Urnes et al. (2008) showed increased disease-related knowledge among participants, but their quality of life was not assessed by them.

The present study revealed that, in the post-test level of knowledge score, Elder age subjects (c2=8.14) and graduated subjects (c2=8.17) were significantly associated with their post-test level of knowledge score at P=0.04 level of significance, it may be because of the extra pedagogical way of education provided on GERD. The statistical significance was calculated using the Pearson chi square test.

In addition, the association between level of knowl-
Table 1: Comparison of pre-test and post-test level of knowledge score

| Level of knowledge | Pre-test | Post-test | Generalized McNemar’s test |
|--------------------|----------|-----------|---------------------------|
|                    | n        | %         | n                        | %         | c²=58.00 P=0.001*** (S) |
| Inadequate knowledge | 46       | 76.7%     | 0                        | 0.0%      |
| Moderate knowledge  | 14       | 23.3%     | 10                       | 16.7%     |
| Adequate knowledge  | 0        | 0.0%      | 50                       | 83.3%     |
| Total               | 60       | 100%      | 60                       | 100.0%    |

edge gain score and their demographic variables regarding management and prevention of complications of GERD again showed that elder age subjects and graduated respondents gained more knowledge score than others. Statistical significance was calculated using Pearson chi-square test. Hence, H₂ was accepted. This objective of the investigator’s study is consistent with the study conducted by Jeong et al. (2017), on the degree of disease knowledge in patients with Gastro esophageal Reflux Disease: A Multi-centre Prospective Study in Korea in which he assessed the knowledge according to age, education, income, and occupation but education programme was not conducted thereby post education programme was not assessed (Manabe and Haruma, 2017).

CONCLUSIONS

The study proved that the STP was very effective among subjects, especially on elder patients and graduates. The STP was given through Power point presentation. Booklets and calendars were issued to the subjects as a take-home message to improve their post-test knowledge. Respondent’s knowledge was also improved very well in the management and prevention of complications of GERD.

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Conflicts of interest

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