

A Study to Assess the Effectiveness of Structured Teaching Program Regarding Prevention And Management of Dumping Syndrome among Patients Following Gastric Surgery in Bangalore, India

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ABSTRACT

Background: Dumping syndrome is a major post operative complication of gastric surgery. Dumping syndrome is a medical condition in which food from the stomach is rapidly emptied into the first part of the intestine i.e. the duodenum without proper digestion. This condition occurs due to the surgical removal of a part or all of the stomach. People with dumping syndrome experiences many symptoms like nausea, vomiting, diarrhea, abdominal cramp, bloating because the small intestine is unable to absorb the nutrients from the food that has not been properly digested in the stomach.

Method: A quasi experimental study was conducted among 40 patients who have undergone gastric surgery. 20 patients were in experimental group and 20 patients were in the control group Purposive sampling technique was used to draw the sample. A structured questionnaire was developed with multiple choice questions which comprised questions related to demographic variables, knowledge on dumping syndrome and its prevention and management. Pretest and posttest data was collected by administering this structured questionnaire to the patients.

Result: In the study the overall pretests mean knowledge scores of Control Group was 54.3%, SD 8.8 and post test mean knowledge scores was 55.1%, SD 9.3 with enhancement of 0.7. The calculated -t value was 1.36 which was non significant at 0.05 level. The overall pretests mean knowledge scores of Experimental Group was 54.3%, SD 9.5 and post test mean knowledge scores was 78.4%, SD 6.7 with enhancement of 24.1. The calculated -t value

was 12.68 which found to be significant at 0.05 level.

Conclusion: Dumping syndrome is the most common complication of gastric surgery. Dietary management and lifestyle modification is the best way to manage the problems related to dumping syndrome. Before the administration of structured teaching program the patients had inadequate knowledge regarding prevention and management of dumping syndrome. However after administration of the Structured Teaching Program on prevention and management of dumping syndrome majority of the patients gained adequate knowledge regarding prevention and management of dumping syndrome.

Key Words: Dumping syndrome, gastric surgery, knowledge, prevention, management, Structured Teaching Program

INTRODUCTION

Gastric surgeries are the type of surgeries where surgical resection of stomach, oesophagus and duodenum are done. The surgeries which increase risk of dumping syndrome are gastrectomy, gastric bypass surgery and esophagectomy. Gastrectomy is the type of gastric surgery where a part or all the stomach is surgically removed. When only a part of the stomach is surgically removed it is called partial gastrectomy and when all the parts of the stomach are removed it is known as complete gastrectomy. Gastrectomy is mostly performed for the surgical treatment of the stomach cancer, severe peptic or duodenal ulcer. ^[1]

Dumping syndrome is a major post operative complication of a gastric surgery. Dumping syndrome is a medical condition in which food from the stomach is rapidly emptied into the first part of the intestine i.e. the duodenum without proper digestion. This condition occurs due to the surgical removal of a part or all of the stomach. People with dumping syndrome experiences many symptoms like nausea, vomiting, diarrhea, abdominal cramp, bloating because the small intestine is unable to absorb the nutrients from the food that has not been properly digested in the stomach. Dumping syndrome is of two types- early and late dumping syndrome. Early dumping syndrome occurs after 30 minutes of having a meal and late dumping syndrome occurs after 2 to 3 hours of a meal. [2]

Early dumping syndrome occurs when large amount of undigested food enter small intestine leading to rapid movement of fluid into intestine. This causes many discomforts like bloating and diarrhea. In case of late dumping syndrome patients are most likely to suffer hypoglycemic attack. This occurs when large amount of glucose from food quickly moves to small intestine which then enters into the blood stream and shoots up the glucose level. In this response to high glucose level, pancreas releases more insulin which causes blood glucose level to drop too fast. [3]

According to National Institute of Diabetes and Kidney diseases 75 percent of people suffering dumping syndrome is of early dumping syndrome and 25 percent of people suffer late dumping syndrome. Some people suffer both the types. [4]

According to No Stomach for Cancer, about 75 percent of patients who had gastrectomy (partial or total) may experience dumping syndrome. [5]

Approximately 50- 70 % of people experience dumping syndrome in the early post operative period. Dietary management is the mainstay of treatment of dumping. Simple carbohydrate, milk and milk products should be avoided. Intake of liquid

should be avoided for at least 30 minutes after food. [6]

MATERIALS AND METHODS

Research Approach- Quantitative approach

Research Design- Quasi experimental pretest posttest design

Sampling technique- Non probability purposive sampling technique

Setting of the study- Dr. B.R.A.M.C hospital and Kidwai oncology Hospital Bangalore

Sample size- A sample size of 40 patients who had gastric surgery was selected, where 20 patients were in the experimental and 20 patients were in the control group.

Ethical approval was taken from the concerned authorities of the hospital and informed consent was obtained from the respondents.

DESCRIPTION OF THE TOOL

The tool was divided into two parts-part A and part B. Part A consist of 10 question items related to socio- demographic variables. Part B consists of self administered structured Knowledge questionnaire of 35 items. It was divided into the following aspects

1. Knowledge related to dumping syndrome- 6 items
2. Sign and symptoms of dumping syndrome- 6 items
3. Prevention of dumping syndrome- 12 items
4. Management of dumping syndrome- 11 items

The tool was validated by 10 subject experts. The reliability of the tool was tested by using split half method and it was found to be reliable at r (correlation coefficient) = 0.86.

Statistical Methods

The collected data were tabulated and analyzed through descriptive statistics (frequency, percentage mean, median and standard deviation) and inferential statistics (t- test). P value < 0.05 was considered as significant.

RESULTS

The study was conducted among 40 gastric surgery patients. The majority of the respondents 20 (50%) were in the age group of 40-49 years and 29 (72.5%) of the respondents were male. Majority of the

respondents 14 (35%) had the educational status of higher secondary education. Majority of the respondents 16 (40%) were working in the private sector. Majority of the respondents 24 (60%) were residing in the Urban area.

Table 1 n=20

Control Group	Max. Score	Knowledge Scores			't' Test
		Mean	Mean (%)	SD (%)	
Pre test	35	19.05	54.4	8.8	1.36 NS
Post test	35	19.30	55.1	9.3	
Enhancement	35	0.25	0.7	2.3	

NS : Non-significant, t (0.05,19df) = 2.093

Table 1 shows the overall pretests mean knowledge scores of Control Group is 54.3%, SD 8.8 and post test mean knowledge scores is 55.1%, SD 9.3 with enhancement of 0.7. The calculated- t value is 1.36 which is non significant at 0.05 level.

Table 2 n=20

Experimental Group	Max. Score	Knowledge Scores			't' Test
		Mean	Mean (%)	SD (%)	
Pre test	35	19.00	54.3	9.5	12.68*
Post test	35	27.45	78.4	6.7	
Enhancement	35	8.45	24.1	8.5	

* Significant at 5% level, t (0.05,19df) = 2.093

Table 2 shows that overall pretests mean knowledge scores of Experimental Group is 54.3%, SD 9.5 and post test mean knowledge scores is 78.4%, SD 6.7 with enhancement of 24.1. The calculated- t value is 12.68 which is significant at 0.05 level.

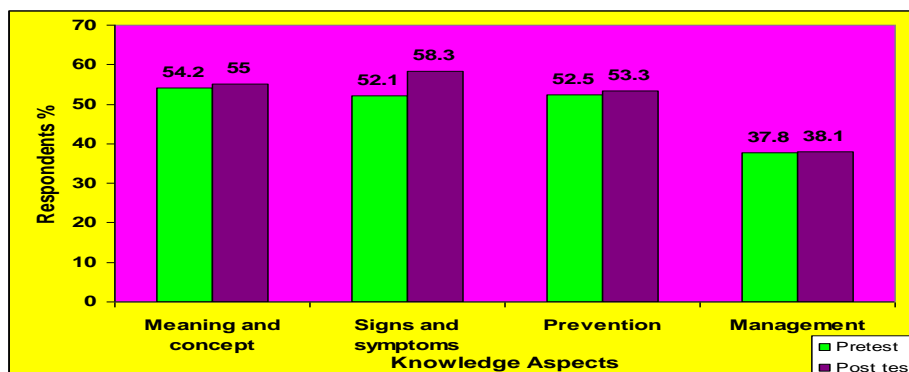


Fig.1. Aspect wise mean pretest and post test knowledge score among Control group

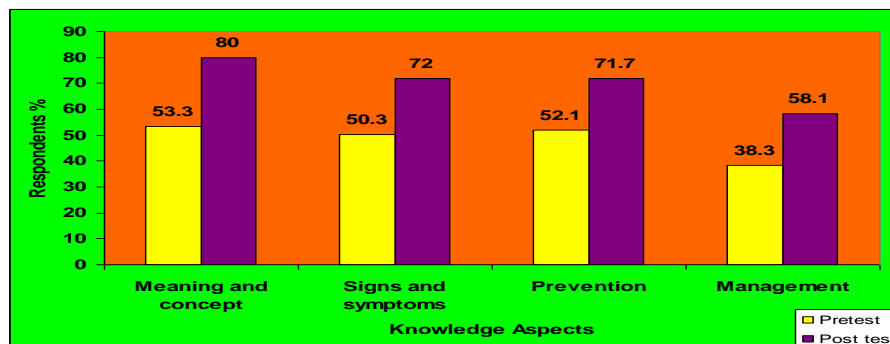


Fig.2. Aspect wise mean pretest and posttest knowledge scores among Experimental group.

DISCUSSION

The present study reveals that the posttest knowledge score regarding meaning

of dumping syndrome among control group is 41% whereas among experimental group is 74.3%, regarding sign and symptoms the

posttest knowledge score among control group is 53.1% and among experimental group is 72%.

Mean posttest knowledge score regarding prevention of dumping syndrome among control group is 48% and among experimental group is 71.1%.

The present study revealed that the Mean posttest knowledge score regarding dietary management of dumping syndrome among control group is 38.1% and among experimental group is 58.1%.

A study conducted by Beek A.P Van et al., stated that dietary management is the initial approach to manage dumping syndrome. Patient should be educated to avoid rapidly absorbable carbohydrates and include more fiber and protein rich foods. [7]

The present study reveals that among control group in pretest 7 (35%) respondents have inadequate and 13 (65%) respondents have moderate knowledge level. In the posttest also 7 (35%) respondents had inadequate, 13 (65%) respondents had moderate knowledge level. Whereas among experimental group in the pretest 15 (75%) respondents have inadequate, 5 (35%) respondents have moderate knowledge level. In the posttest 7 (35%) respondents have moderate and 13 (65%) have adequate knowledge level.

According to American nurse today, most of the people who have undergone gastric surgery do not have adequate knowledge on dumping syndrome and they are not adequately educated about dumping syndrome. Nurses and other healthcare workers must educate the patients effectively so that patient's quality of life can be improved. [8]

CONCLUSION

Dumping syndrome is a very common complication of gastric surgery. The best way to manage dumping syndrome is through lifestyle modifications. Major Strength of this study is that it has revealed that patients lacked the knowledge on how to manage dumping syndrome. And the

structured teaching program used in the study has significantly enhanced their knowledge in self management of the symptoms associated dumping syndrome. The weakness of the study is that the sample was drawn using a purposive sampling technique.

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