JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Efficacy of chewing gum on the bowel motility among patients undergone abdominal surgery

Ishu Kumari *

ABSTRACT

Background of the study :-Abdominal surgery is the most common surgery due to which people encounter central nervous system is associated with central nervous system changes in post-operative, leading to decreased bowel movements and driven problem among peoples.

Methodology: - A quantitative research approach was used and total 60 samples were selected with purposive sampling technique i.e.30 from experimental and 30 from control group.

Conclusion: - The result showed that chewing gum was effective in early return of the bowel motility in experimental group as compared to control group, so the research hypothesis (H_1) was accepted.

Recommendations: - The study can be repeated for more generalization of finding.

Key words: Chewing gum, bowel motility, abdominal surgery.

INTRODUCTION

Abdominal surgery is the most common surgery due to which people encounter central nervous system that is associated with central nervous system (CNS) changes in post-operative, leading to decreased bowel movements and driven problem among peoples.

Post-operative ileus is defined as transient cessation of coordinated bowel motility after surgical interventions and is one of the major problems of post – abdominal surgery along with delay in hospital discharge, abdominal pain, abdominal distension, inability to start oral feeding, breastfeeding, and eventually increases the cost of hospital care.

The physiological mechanism for the enhanced recovery of bowel motility by chewing gum is assumed to be the activation of the cephalic vagal pathway, which is stimulating intestinal myoelectric activity it is an attempt to counteract activation of the gastrointestinal micro receptors.

So, there is need to find an alternative which is both cost effective and accessible for the patients in order to resolve the problem of post -operative obstruction during the post -operative days following abdominal surgery.

Statement of problem

A quasi experimental study to assess the efficacy of chewing gum on the bowel motility among patients undergone abdominal surgery in selected hospital Jalandhar, Punjab, 2019.

Objectives

1. To assess the bowel motility with chewing gum among patients undergone abdominal surgery in experimental group.

2. To assess the bowel motility without chewing gum among patients undergone abdominal surgery in control group.
3. To compare the bowel motility among patients undergone abdominal surgery in experimental and control group.
4. To find out the association of bowel motility among patients undergone abdominal surgery with their selected socio-demographic variables.

Methodology

Research approach:

A Quantitative research approach was used in the study

Research design*:*

A Quasi-Experimental Non-Randomized Control group post-test only design was used.

Research setting*:* The present study was conducted in civil hospital Jalandhar, Punjab.

Variables:

In present study

Independent variables – chewing gum

Dependent variables- Bowel motility

Demographics variables- Age, Gender, Educational status, Area of residence, Occupational status, Dietary pattern, Type of surgery, Name of the surgery, Duration of surgery, Types of anaesthesia and Average bowel habits preoperatively.

Target population:

The target population of the study was all the patients who had undergone abdominal surgery in Civil hospital Jalandhar, Punjab.

Sample:

The sample size was 60. (30) in experimental group and (30) in control group.

Sampling Technique:

Non-probability purposive sampling technique was used.

Inclusion and exclusion criteria:

Inclusion criteria:

- Both male and female patients who had undergone abdominal surgery.
- Patient who were able to chew the chewing gum

Exclusion criteria:

- Patients who were having any previous history of allergy to chewing- gum.
- Patient who were critically ill.

Selection and development of tool:

The tool was consist of two parts:

Part A: This part includes socio- demographic variables of the patients like age, gender, educational status, area

of residence, occupational status, dietary pattern, type of surgery, name of the surgery, duration of surgery, types of anaesthesia and average bowel habits preoperatively.

Part B: The self- structured Bowel movement assessment sheet consist of the following components

- Return of bowel sound
- Passage of first flatus
- Passage of first stool

Part C: Bowel sound auscultation sheet

Validity of tool:

Tool was validated by obtaining the expert's opinion of different fields of nursing.

Reliability of tool:

Reliability of the tool was calculated by applying interrater observer method. The reliability of tool was 0.83 hence the tool was reliable.

Pilot study:

Pilot study was conducted in the month of January on minimum 10% of the sample of abdominal surgery patient in Civil hospital, Jalandhar.

Data collection procedure:

Total 60 participants were selected. Then after 4 hours of operation, of surgery were given sugar free chewing gum 3 times (Orbit brand produced by Wrigley company) in experimental group and are instructed to chew the gum for 10-15 minutes. Patients were instructed not to swallow and to stay awake while chewing gum. Every 2nd hourly the bowel movement can be assessed by placing the stethoscope in each quadrant of the abdomen for 3- 5 minutes the interventions were repeated every 6th hours till the return of gastrointestinal motility. Passing of gas and defecation were obtained from the client subjectively. In Control group same procedure with routine care followed except the administration of chewing gum.

Plan for data analysis:

1. **Descriptive statistics:** Frequency & percentage distribution, mean and standard deviation
2. **Inferential statistics:** Unpaired t- test and chi square

Section II: Assessment of bowel motility with chewing gum using self-structured Bowel Movement Assessment sheet among patients undergone abdominal surgery in experimental group

Objectives 1. To assess the bowel motility with chewing gum among patients undergone abdominal surgery in experimental group

Table 2

Mean hours of bowel motility with chewing gum among patients undergone abdominal surgery in experimental group

Variables	Experimental group n=30	
	Mean	SD
Return of first bowel sound (in hrs.)	11.2	±4.63
Passage of first flatus (in hrs.)	19.0	±5.50
Passage of first stool (in hrs.)	68.8	±14.0

Objectives 2. To assess the bowel motility without chewing gum among patients undergone abdominal surgery in control group.

Table 3

Mean hours of bowel motility without chewing gum among patients undergone abdominal surgery in control group

Variables	Control group n=30	
	Mean	SD
Return of first bowel sound (in hrs.)	22.6	±7.58
Passage of first flatus (in hrs.)	32.8	±14.8
Passage of first stool (in hrs.)	79.3	±20.5

Section III: Comparison of bowel motility among patients undergone abdominal surgery in experimental and control group.

Objectives 3. To compare the bowel motility among patients undergone abdominal surgery in experimental and control group.

Table 4

Comparison of mean hours of bowel motility among patient undergone abdominal surgery in experimental and control group.

N=60

Variables	Experimental group n=30			Control group n=30					
	Mean	SD		Mean	SD	SE	MD	df	't'
Return of first bowel sound (in hrs.)	11.2	±4.63		22.6	±7.58	1.62	11.4	58	7.037***

Passage of first flatus (in hrs.)	19.0	±5.50		32.8	±14.8	2.88	13.8	58	4.791***
Passage of first stool (in hrs.)	68.3	±14.0		79.3	±20.5	4.53	10.5	58	2.333*

***= significant at p<0.001 *=significant at p<0.05

Major Findings

Section I – Description of socio demographic variables by using frequency and percentage

In Experimental group: 9 (30.00%) abdominal surgery patients were in age group 45-54 years, 22 (73.33%) of the patients were female, 36.67% (11) of the patients were illiterate, 56.67% (17) of the patients were residing in rural area, 60.00% (18) of patients were house wife, 73.33% (22) of patients were non vegetarian,83.33% (25) of patients were in open surgery, 33.33% (10) of patients were undergone cholecystectomy and 33.33% (10) were undergone caesarean section, (73.33%) 22 of the patients in duration of surgery were< 2 hours, 100% (30) of patients were under spinal anesthesia. 66.67% (20) of the patient's average bowel habits preoperatively were in twice a day.

In Control group: 10 (33.33%) abdominal surgery patients were in age group 25-34 years, 22 (73.33%) of the patients were female, 30.00% (09) of the patients were illiterate and 30.00% (09) of the patients were up to middle, 50.00% (15) of the patients were residing in rural area and 50.00% (15) of the patients were residing in urban area, 80.00% (24) of patients were house wife, 53.33% (16) of patients were vegetarian, 93.33% (28) of patients were in open surgery, 33.33% (10) of patients were undergone cholecystectomy and 33.33% (10) were undergone caesarean section, 24 of the patients were in duration of < 2 hours, 100% (30) of patients were under spinal anaesthesia. 73.33% (22) of the patient's average bowel habits preoperatively were in twice a day.

Objectives 1. To assess the bowel motility with chewing gum among patients undergone abdominal surgery in experimental group

- The mean duration return of bowel sound in hours was 11.2±4.63. The mean duration passage of first flatus in hours was 19.0±5.50. The mean duration passage of first stool in hours was 68.3±14.0.

Objectives 2. To assess the bowel motility without chewing gum among patients undergone abdominal surgery patients

- The mean duration return of bowel sound in hours was 22.6±7.58. The mean duration passage of first flatus in hours was 32.8. ± 14.8. The mean duration passage of first stool in hours was 79.3±20.5.

Objectives 3. To compare the bowel motility among patients undergone abdominal surgery in experimental and control group.

- The difference in means hours duration of return of bowel sound in experimental group and control group was statistically significant at p<0.001 level. The difference in means hours duration of passage of first flatus in experimental group and control group was statistically significant at p<0.001 level. The difference in means hours duration of passage of first stool in experimental group and control group was statistically significant at p<0.05 level.

Objective 4: To find out the association of bowel motility among patients undergone abdominal surgery with their selected socio-demographic variables.

- There is association between the age and types of surgery shows significant association Other remaining variables gender, educational status, area of residence, occupational status, dietary pattern, name of surgery, duration of surgery, average bowel habits preoperatively shows no significant association.

Nursing Implications

The result of the present study has several implications, which are discussed in the following area:

1. Nursing education
2. Nursing practice

Nursing Education

1. As a nurse educator, there is an ample of opportunities for nursing professionals to educate regarding efficacy of chewing gum on the bowel motility among abdominal surgery patients in areas of clinical setting as well as in theory.
2. It helps nursing students to plan and organize the nursing intervention to prevent the postoperative paralytic ileus with complementary therapies.

Nursing Practice

1. Chewing gum can reduce the occurrence of postoperative paralytic ileus. Nurse can use this therapy as an effective measure to treat postoperative paralytic ileus.
2. Administrations of chewing gum can provide mouth freshness to the postoperative clients.

Recommendations:

1. A similar study may be repeated for more generalization of finding.
2. A similar study can be done on large sample.
3. Study can be repeated in different setting to strengthen the finding.
4. A longer period of intervention can be studied for more reliability effectiveness.

Conclusion: - Based on the present study findings the investigators found that the difference between in early return of bowel motility in experimental and control group was statistically significant at 0.001 and 0.05 level of significant. It is concluded that chewing gum had impact on bowel motility among patients undergone abdominal surgery.

References: -

1. Wilkins & Williams. Textbook of Manual of Nursing Practice. Lippincott Wolter Kluwer. 9th edition; 2012. 723-726.
2. Lemone Priscilla and Burke Karen. Textbook of Medical Surgical Nursing. 4th ed. New delhi: Dorling Kindersely; 2008. 714-724.
3. Black Joyce M. Medical Surgical Nursing Clinical Management of positive outcome. 8th ed. New Delhi: Mosby Elsevier Publishers; 2009
4. Jean J Duron, Henri H, Michel V, Anne B, Fabrice M, 2006 Nov; 244(5)757. [internet] Available from:Adhesive Postoperative Small Bowel Obstruction: Incidence and Risk Factors of Recurrence After Surgical Treatment.
5. Deborah K, Sharon L Stein, 2013 Sep; 26(3): 186–190. [internet] Available from: Facilitating Return of Bowel Function after Colorectal Surgery: Alvimopan and Gum Chewing //www.ncbi.nlm.nih.gov/pmc/articles/PMC3747279