



EFFECT OF MANUAL THERAPY, EXERCISE, ABDOMINAL MASSAGE, AND TOILET ERGONOMICS AMONG OLDER ADULTS SUFFERING FROM CONSTIPATION

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ABSTRACT

Background: Constipation is commonly defined as having less than three bowel motions each week, according to healthcare workers. Constipation, on the other hand, is defined by patients as any type of "difficult defecation," including straining, hard stool, a sense of incomplete evacuation, and a non-productive urge. The elderly report more straining and symptoms of an anal obstruction. **Objective:** To study the pre-post test scores of the effect of manual therapy, exercise, abdominal massage and toilet ergonomics by using the Constipation Assessment Scale. **Methodology:** A total of 85 older population included in this study who had constipation problems. These populations were assessed using the CAS scale then further results were declared. **Results:** The mean of the CAS scale was extremely significant with a p-value being < 0.001. **Conclusion:** Manual therapy, Exercise, Abdominal massage and Toilet ergonomics decreased the severity of gastrointestinal symptoms, especially constipation Which is effective in relieving constipation from the older adults.

KEYWORDS : Manual therapy, Toilet Ergonomics, Abdominal massage, Constipation Assessment scale.

INTRODUCTION :

Chronic constipation (CC) is not an uncommon problem in Indian communities and in clinical practice¹. Constipation is commonly defined as having less than three bowel motions each week, according to healthcare workers. In India, 16.8 % people suffer from constipation.² Chronic constipation is a complicated condition among older individuals, which is characterized by difficult stool passage³⁻⁷. Constipation among older people is far more common than younger people³⁻⁷.

The more time to spend in the toilet to pass the stools or some elderly feeling incomplete bowel movement and feel like block. And if the stool become harder it with put more strain on the muscles of defecation. Constipation sometimes occurs due to insufficient caloric intake, and anorectal sensory alterations are all factors that contribute to this phenomenon. Common causes of constipation in the elderly people are linked to several factors including lack of normal bowel movements or aging, lack of proper diet, low-fiber food consumption, lack of adequate fluid intake, lack of adequate physical activity, illness or the use of drugs³⁻⁷.

Constipation in the elderly is difficult to manage for both individuals and healthcare practitioners. Constipation often requires medical or pharmacologic management. Non-pharmaceutical therapy includes lifestyle adjustments that promote good health habits to facilitate defecation such as dietary changes like increasing fiber and water consumption⁸. Other non-pharmacologic approaches include reflex-therapy, biofeedback, massage, translumbar and transsacral magnetic stimulation-induced motor evoked potentials and electrical stimulation¹⁰⁻¹¹. Further, prolonged use of pharmaceutical therapy causes side effects like bowel perforation.

Ergonomics are important in places other than the office, for instance in your bathroom. Research has sought out and proved the most efficient, effective and proper way to defecate.

Research demonstrates that the angle decreases when obtaining a full squat to defecate, easing the release of contents. This body mechanism reduces the need to strain, in turn eliminating the risk of hemorrhoids, syncope and stroke. It also better allows the release of all content, decreasing the risk of constipation.

Physiotherapy for intestinal function training has mechanical and neurological effects. Stimulating colonic motions, synchronizing muscles, and boosting faecal propulsion and abdominal muscular tone are examples of the mechanical effects. The parasympathetic nervous system is stimulated to improve motility, while the sympathetic nervous system is stimulated to reduce anxiety and increase endogenous serotonin to relieve discomfort.

However, there is limited evidence of the effectiveness of physiotherapy in patients suffering from chronic constipation.

Need for the study:-

Constipation is a quite common problem among the older adults which is common to use laxatives for passing stools that then becomes habitual. So, to check the effectiveness of non-pharmacotherapy like physiotherapy treatment for constipation relief symptoms.

AIMS:-

To evaluate the effect of Manual therapy, Exercise, Abdominal massage, and Toilet ergonomics among older adults suffering from constipation.

OBJECTIVE:-

To study the pre-post test scores of the effect of manual therapy, exercise, abdominal massage, and toilet ergonomics by using Constipation Assessment Scale (CAS).

METHODOLOGY:

The research work has been approved by the research committee of college of applied education and health sciences. A total number of 85 elderly were included. Inclusion criteria: Aged 60 to 85 years old. Older adults suffering from constipation. Subjects willing to participate. Exclusion criteria: Mentally unstable patients. Patients who underwent gastric surgeries. Patients with ostomy bag.

Procedure:

Participants were selected based on inclusion and exclusion criteria, and the procedure was explained to the subjects. Informed consent was taken from them.

All the interventions given below were carried out for 3 weeks. The obtained pre-test and post-test scores were compared and analysed statistically.

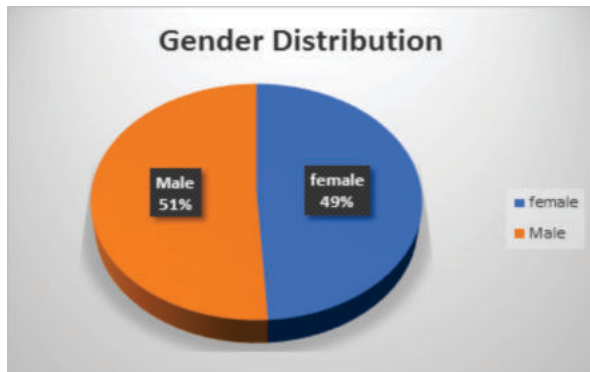
RESULTS:

In the present study, 90 participants were screened for eligibility out of which 5 participants had to be excluded (not meeting inclusion criteria (n=2), declined to participate (n=1), and others (n=2), resulting in 85 participants agreeing to participate in this study.

Table 1: Distribution of Demographic variables of gender

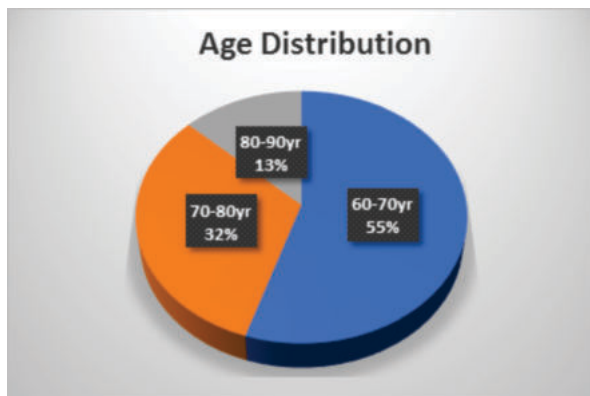
Sr. no	Variables Gender	Frequency(n)	Percentage
1	Male	43	51%
2	Female	42	49%

Out of 85 participants, 49% (n=42) were women, and 51% (n=43) were men (graph-1).

**Graph 1: Gender Distribution****Table 2: Distribution of Demographic variables of age**

Sr no	Age Variables	Frequency(n)	Percentage
1	60-70 years	47	55%
2	70-80 years	27	32%
3	80-90 years	11	13%

Further the age group data shows a distribution of 55% (n=47) were between 60-70 years old, whereas 32% (n=27) were between 70-80 years old and 13% (n=11) were between 80-90 years old (graph-2).

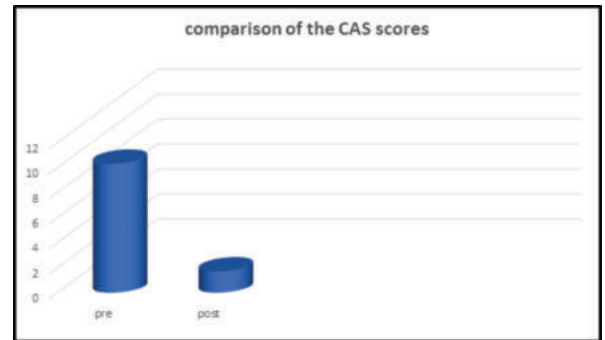
**Graph 2: Age Distribution****Table 3: Within group comparison of the CAS scores mean pretest and post-intervention in CBT with conventional physiotherapy group (n = 35)**

Outcome Parameter	At baseline Mean±SD	Post-intervention mean±SD	p-value
CAS	10.3 ± 1.9	1.7 ± 2.2	< 0.0001

CAS-Constipation Assessment Scale**Inference:**

Above table illustrates the comparison of the mean pre. and post-treatment obtained from the CAS scores by the participants. Mean difference is CAS (8.588), The 95% confidence interval of the difference is 8.109 to 9.067 which

indicated that the Score improved in the post-intervention and the difference was statistically significant (P < 0.05).

**Graph 3: comparison of the CAS mean pretest and post-intervention****DISCUSSION:**

The present study was aimed to study the effect of manual therapy, exercise, abdominal massage, and toilet ergonomics among older adults suffering from constipation. The impact of constipation on daily activities is more serious which causing discomfort in daily activities and leads some individuals to suffer from psychological pain.

In the present study, 90 participants were screened for eligibility out of which 5 participants had to be excluded (not meeting inclusion criteria (n=2), declined to participate (n=1), and others (n=2), resulting in 85 participants agreeing to participate in this study. Out of 85 participants, 49% (n=42) were women, and 51% (n=43) were men (graph-1), Further the age group data shows a distribution of 55% (n=47) were between 60-70 years old, whereas 32% (n=27) were between 70-80 years old and 13% (n=11) were between 80-90 years old (graph-2). The frequency of CC increases with age¹². In the coastal eastern Indian study, stool frequency reduced with age, particularly among female¹². In another study, of 925 patients with constipation, patients with functional constipation (FC) were older than those with IBS¹³. In an eastern Indian study, of 331 consecutive patients with CC, 65% were older than 60 years¹⁴⁻¹⁵. The female population is expected to suffer from CC more frequently than male due to slower transit, pelvic floor dysfunction due to obstetric trauma, harder stool forms, and overreporting¹². Female population had a greater reduction of stool frequency with increasing age compared to males¹². More studies are needed on this issue.

Comparative means of pre-treatment and post-treatment CAS scores by the participants was studied. Mean difference is CAS (8.588), the 95% confidence interval of the difference is 8.109 to 9.067 which indicated that the Score improved in the post-intervention and the difference was statistically significant (P < 0.05). This study confirmed that manual therapy Abdominal massage, and toilet ergonomics be an effective treatment method for an internal condition such as functional constipation, as it not only improves the symptom of constipation but also normalizes the colon transit time by facilitating intestinal movements¹⁴. At present, only a limited number of studies are based on physiotherapeutic approaches to internal diseases.¹⁷ Therefore, future studies should further segment the spinal segments that affect the intestinal canal and use various physiotherapeutic interventions.

According to a study conducted by Lakhan et al., combining massage and aromatherapy resulted in positive effects. Massage is a means of reducing muscle tension, providing relief, and stimulating blood circulation in tissues as well as enhancing the effect of any essential oil used during the massage. Consistent with the evidence from the literature, in

the present study, we found that abdominal massage is an effective solution for constipation issues.

This study suggests that abdominal massage, exercise, Manual therapy, and Toilet ergonomics decreases the symptoms of constipation in patients who are diagnosed with constipation and shortens the defecation period and improves the quality of life.

CONCLUSION:

Manual therapy, Exercise, Abdominal massage and Toilet ergonomics is effective in relieving constipation in older adults.

Limitations of the study:

- There was difficulty in following the subjects up.
- Gender distribution was not equal.

Future scope of the study:

Future studies may focus on carrying out the same study on a large scale and focusing on more precise ergonomics and Manual therapy.

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