

RELEVANCE OF PHYSIOTHERAPY IN THE MANAGEMENT OF FAECAL INCONTINENCE

ONIGBINDE AT, ADEDOYIN RA, OBEMBE AO, JOHNSON OE, EMECHETE AAI, AKINWANDE A

Medical Rehabilitation Department, Faculty of Basic Medical Sciences, College of Health Sciences, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria

AIKOMO T, AWOTIDEBE T

Physiotherapy Department, Obafemi Awolowo University Teaching Hospital, Ile-Ife, Osun State, Nigeria

Correspondence: Onigbinde, AT • email: Ayotesonigbinde@yahoo.co.uk

ABSTRACT

Pelvic floor dysfunction usually results in faecal incontinence. The dysfunctions are decreased rectal sensation, impaired anal sensation, rectal prolapse, and weakness of the pelvic muscles due to complicated birth delivery or prolonged labour. Trauma to the perineum or the sacral nerve roots is also a cause of pelvic dysfunction. The management involves medical, surgical and physiotherapy interventions. Referrals for physical therapy are however very rare, probably due to low awareness of the role of physical therapists in the management of faecal incontinence. The management includes programmes for strengthening the pelvic floor muscles using Kegel exercises and electrical muscle stimulation using faradic current. This article highlights the role of physical therapy in the management of faecal incontinence.

Key words: faecal incontinence, electrical muscle stimulation, pelvic floor muscles, exercises

INTRODUCTION

Pelvic floor dysfunction has been reported to be one of the major causes of faecal incontinence.¹ Abnormalities of the pelvic floor structures which can lead to faecal incontinence are: decreased perception of rectal sensation, decreased anal canal pressures, decreased squeeze pressure of the anal canal, impaired anal sensation, a dropping of the rectum (rectal prolapse), protrusion of the rectum through the vagina (rectocele) and/or general weakness and sagging of the pelvic floor.²

Childbirth is the most common cause of pelvic floor dysfunction, but the incontinence does not manifest until the patient is in her mid-forties or later.¹ Other causes are constipation,^{1,3} a prolonged or difficult labour, and trauma involving the perineum or sacral nerve roots. Brain damage or dementia, which prevents awareness of the urge to defaecate can also result in faecal incontinence.³

The prevalence of faecal incontinence in other countries has been estimated to vary between 2.2 and 18.4%. In the United Kingdom, a prevalence of 1 per 1000 was reported in 1975, while in 1985 a prevalence of 1.7 per 1000 women under 65 years and 13.3 per 1000 women over 63 years was reported in the United States.⁴ More than 5.5 million Americans suffer from faecal incontinence.

Faecal incontinence affects people of all ages, however, it is more common in women than in men, with a ratio of 8:1. It is also more common in older people than in the young.¹ In Nigeria, however, Okonkwo et al.⁵ reported a prevalence of 6.96% among Igbo women. They reported that 2.67% of the women were incontinent for liquid stool, 2.17% for solid stool, and 2.12% for flatus. Faecal incontinence is a devastating experience for the individual concerned, even when it is just a temporary problem.³

Faecal incontinence differs in severity, ranging from slight soiling of clothing to uncontrollable emptying of the bowel.⁶ It is a debilitating condition which significantly impairs the person's quality of life.⁷ In Nigeria, faecal incontinence has been found to be less common than urinary incontinence. This may be due to the fact that patients are ashamed and tend to hide instead of seeking assistance.³

The goal of treatment in patients with faecal incontinence is to restore continence and improve the quality of life.⁸ Surgery may be an option for a very small proportion of patients, specifically those whose incontinence is caused by an injury to the pelvic floor, the anal canal, or the sphincters, or patients who do not respond to medical treatment or have a well-documented sphincter defect.^{2,8} Physical therapy has a significant role to play in the management of faecal incontinence and is vital as a treatment option, depending on the cause and the severity. The prognosis of faecal incontinence depends on the cause and severity of the underlying pathology.²

It was observed that most patients with this ailment are not usually referred for physical therapy probably because of a low awareness of the role of the physical therapist in its management. This article, therefore, highlights the role of physical therapy in the management of faecal incontinence.

TREATMENT OF FAECAL INCONTINENCE

Proper clinical assessment followed by conservative medical therapy usually leads to improvement in more than 50% of cases of faecal incontinence (FI), including patients with severe symptoms.⁷ Conservative treatment is, therefore, the first step in the management protocol. Initial management includes dietary advice, prescription of antidiarrhoeal or constipating drugs, biofeedback therapy, and recently, rectal irrigation.⁷

Evaluation

The first step in the evaluation of faecal incontinence is to establish a rapport with the patient. Thereafter, an assessment of the timing, duration, and nature of the incontinence and its impact on the quality of life of the patient is important.⁸ A detailed inquiry about the patient's obstetric history and co-existing problems, and a stool diary may also be helpful.⁸

Internal evaluation of pelvic floor muscle strength involves wearing sterile gloves and lubricating the middle and the index fingers which are then gently inserted into the vaginal canal with the finger pads turned towards the sacrum. The patient is then instructed 'on the count of 3' to squeeze the pelvic floor muscles as hard as she can and to hold the contraction for as long as she can. This instruction is reinforced by the command, 'Do not let me pull my fingers out'. The muscle strength is graded using the pelvic floor muscle grading scale³ (table 1).

Table 1. Pelvic Floor Muscle Grading Scale

Rating	Meaning	Indication
0/5		No contraction
1/5	Trace	Contraction held for less than 1 second
2/5	Weak	Contraction held for 1-3 seconds
3/5	Moderate	Contraction held for 4-6 seconds
4/5	Strong	Contraction held for 7-9 seconds
5/5	Unmistakably	Contraction held for more than 9 seconds; repeat four times.

The pelvic floor grading has no unit.³

Surgical Intervention

Sacral nerve stimulation is a new therapeutic approach, which is a less invasive surgical procedure. It has the advantage that a temporary procedure can be carried out prior to the final operation to make a reliable estimate of its outcome. This technique is well established in the treatment of urinary incontinence.⁸

Dynamic graciloplasty is another surgical intervention used in the management of faecal incontinence. The gracilis muscle is mobilized from the inner thigh and wrapped around the anal canal. Battery stimulation produces muscle contraction, which increases anal pressure. This procedure has limited application owing to its complexity and associated morbidity.⁹

Patients who have severe faecal incontinence that does not respond to other treatments may decide to have a colostomy, which involves removing a portion of the bowel.² The remaining part, if it still works properly, is then either attached to the anus or to a hole in the abdomen called a stoma, through which stool leaves the body and is collected in a pouch.²

Use of vaginal cones

Vaginal cones are small weights, which can be used by women to help with their pelvic floor exercises.¹⁰ The cone is placed in the vagina and the pelvic floor muscles are used to hold it there. It is used for about 15-20 minutes at a time, while walking around at home. It is a good means of exercising¹⁰ the pelvic floor muscles. Some vaginal cones come as a set of cones of different weights, while others are made as single cones that unscrew to allow the insertion of different weights.¹⁰ In either case, the exercises start with the patient using the lightest weight for a short

period once or twice a day, and gradually increasing the weight, frequency, and duration of use. Vaginal cones have been found useful by many women who find them helpful in doing the exercises properly.¹⁰ They however, only work if the patient has a minor degree of prolapse.

Anal plugs

Since not all patients affected by faecal incontinence can be cured with conservative or surgical treatment, the use of anal plugs might be helpful. There are different types of anal plugs which are used to stop the leakage of stool and control incontinence.¹¹

Deutekom and Dobben¹¹ reported that not all patients can tolerate anal plugs, but in cases where they are tolerated, they can help to prevent incontinence. Plugs have been found to be useful in a selected group of people either as a substitute for other forms of management or as an adjunct treatment option. There are plugs of different designs and sizes; examples include polyurethane plugs and polyvinyl alcohol plugs.¹¹

PHYSIOTHERAPY INTERVENTION

The goals of management include increasing the strength of the pelvic floor muscles; increasing anorectal sphincter control especially with physical stress such as coughing; decreasing the frequency and severity of faecal incontinence; and improving the patient's self perception and confidence level.

The exercise which has been observed to be effective for strengthening the pelvic floor muscles is called Kegels, named after Dr. Arnold Kegel, who developed the technique in the 1940s.² The patient lies in a prone position with a pillow support under the abdomen and the ankle. The patient is adequately draped to allow minimal exposure. The therapist wears gloves and applies lubricants on the index and middle fingers of the right hand. These fingers are gently inserted into the anus of the patient and she is then asked to contract the pelvic floor muscles to prevent the removal of the fingers. The contraction is held for some time with a resting interval between contractions, depending on the severity of the condition and the type of Kegels the patient is interested in carrying out.³ The patient performs 50-80 of these Kegels a day while sitting or standing, but especially while standing.^{10,12} With regular exercise, pelvic floor exercises should give optimum results within 3 - 6 months, but should be continued once daily for life to safeguard against the recurrence of the problem.¹⁰ The patient should not do all the Kegels in one session, as these muscles fatigue

quickly.¹² For a patient to effectively carry out this exercise she needs to first identify the pelvic floor muscles through the 'stop test', as described by Kendra.¹³ The patient is asked to sit on the toilet, with the legs spread wide apart and begin urinating. Midstream, the patient is asked to pull up on the pelvic floor muscles to clamp down and close the urethra. She should hold this contraction for a brief moment and then release the muscles to complete urination. This test can be used for occasional assessment of the pelvic muscles.¹³

Types of Kegels

Slow Kegels: The patient starts the exercises lying down on the floor. When she is confident that she is doing the exercises well in this position, she can progress to exercising in the sitting position. In this type of Kegels, the patient sustains the contraction of the pelvic floor muscles at regular intervals. The length of time the patient can hold the contraction initially varies from person to person. To figure out how long she can hold the contraction, the patient should count how many seconds she is able to either stop the flow of urine during the stop test, or how long she can feel the contraction with her fingers inserted into the vagina. The number of seconds is the maximum holding time. The patient will hold each slow Kegel for a number of seconds, and rest for the same number of seconds.¹² Slow Kegels strengthen the pelvic floor muscles and improve the length of time the patient can consciously hold the contractions.

Quick Kegels (Fast Kegels): The patient is asked to perform ten (10) Kegels as fast as she can (i.e. contract and relax without pausing). She should repeat 10 fast Kegel exercises for 10 sessions in a day and rest for at least 3 seconds between the fast squeezes. Fast Kegels improve depending on how quickly the pelvic floor tightens when the patient coughs or sneezes.¹²

Elevator Kegels: The patient should practice contracting the pelvic floor muscles slowly and pausing briefly at each intensity level. When the patient has reached the maximum contraction, she should slowly release the muscles, pausing briefly at each intensity level.¹²

Electro Stimulation Using Faradic Current

The goals of this treatment are to increase the strength of the pelvic floor muscles and normalize the reflex activity of the muscles via stimulation of the afferent and efferent fibers of the anorectal

sphincters.³ An electric muscle stimulator with sinusoidal, faradic and interrupted direct current outputs is used.³ It has been suggested that electrical stimulation can transform immediate fibers types, for example type II (fast twitch) motor units to mainly type I (slow twitch)³ units. Type I motor units have been observed to generate more tension, thereby increasing the tone of the pelvic floor muscles, resulting in a decrease in the symptoms of incontinence. Modifying sensations around the anorectal region can inhibit faecal incontinence by stimulating the afferent fibers, whereas stimulation of efferent fibers can induce voiding by stimulating contraction of the region.

The patient lies in a prone position with pillows under the abdomen and the ankle. She should be adequately draped to allow minimal exposure of the area being treated. A four-pole electrode (6cm by 8cm) application is utilized with two electrodes placed medial to the ischial tuberosities on either side of the anus, and the remaining two electrodes placed along an imaginary line joining the posterior inferior iliac spine, 5 centimetres each from the midline.³

The duration of the stimulation is between 20 minutes and an hour a day for about 20 days.¹⁰ The treatment may be needed for a period ranging from a few weeks to several months.¹⁰ Sokunbi and Okunsanya³ stated that the intensity of the current is gradually increased from zero to the maximum that can be tolerated by the patient and which produces a perceptible muscular contraction.

CONCLUSION

Faecal incontinence is primarily a subjective symptom with complex aetiology and pathogenesis. A detailed history and examination including digital rectal examination will help in its diagnosis and exclude the common disorders causing it. All patients should be offered conservative management, which includes dietary advice, antidiarrhoeal or constipating drugs and physiotherapy. If conservative management fails, further investigation should be undertaken to decide on the choice of further treatment. In the case of physiotherapy treatment, the patient's readiness to carry out exercises and to perform the necessary home programme (Kegels' exercise) is a major determinant of the outcome of the treatment. It has been observed that physiotherapy intervention is essential in the management of faecal incontinence and that patients with this condition could have better outcomes if they are referred for physiotherapy early.

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